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ABSTRACT

Papers from the conference on the occurrence of verbal constituents in series in certain languages, particularly pidgins and creoles, include the following: "What Are We Talking About When We Talk About Serial Verbs?" (Arnold M. Zwicky); "Serial Verb Constructions" (Pieter Seuren); "On the Definition and Distribution of Serial Verb Constructions" (Eric Schiller); "Parataxis in White Hmong" (Elizabeth Riddle); "On Arguing for Serial Verbs (with Special Reference to Modern Greek)" (Brian D. Joseph); "Serialization and Subordination in Gullah: Toward a Definition of Serialization" (Salikoko Mufwene); "Serial Verb Constructions and Motion Events in Caribbean English Creoles" (Don Winford); "Tense Marking in Serial Structures" (Francis Byrne); "Serial Verb Construction in Marathi" (Rajeshwari Pandharipandé); "Tamil Serial Verbs" (Sabita Nagarajan); "Constraints on Intransitive Quasi-Serial Verb Constructions in Modern Colloquial English" (Geoffrey K. Pullum); "Serial vs. Consecutive Verbs in Walapai" (James E. Redden); "Suffixal Concatenation in the Classical Japanese Predicate: Erstwhile Serial Verbs?" (Charles Quinn); "Multi-Verb Constructions in Korean" (In-Hee Jo); "On Serial Verbs in Mandarin Chinese: VV Compounds and Co-Verbial Phrases" (Claire Hsun-huei Chang); "Syntactic Constructions in Serial Verb Expressions in Chinese" (John Xiang-ling Dai); "Serial Verbs in Colloquial Arabic" (Lutfi Hussein); and "Serial Verb Constructions in Categorial Grammar" (Katherine Welker). (MSE)

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Working Papers in Linguistics

No. 39

# WHEN VERBS COLLIDE: PAPERS FROM THE 1990 OHIO STATE MINI-CONFERENCE ON SERIAL VERBS

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*Edited by*
*Brian D. Joseph*
*and*
*Arnold M. Zwicky*

*December 1990*

*The Ohio State University*
*DEPARTMENT OF LINGUISTICS*

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The Ohio State University

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Edited by

Brian D. Joseph

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The Ohio State University

Department of Linguistics

204 Cunz Hall
1841 Millikin Rd.
Columbus, OH 43210-1229
U.S.A.

December 1990

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# Introduction

Though linguists have long realized that particular languages exhibit problematic instances of verbal constituents in series, these phenomena were for the most part treated as matters for the specialists in the languages in question - as peripheral phenomena within these languages, indeed as peripheral phenomena across the languages of the world, and consequently of little interest to the theorist. In the past thirty years there has been a dramatic shift in attitude, set off by three largely independent events in the history of linguistics.

First, along with the growth of sociolinguistics came a renewed interest in the linguistic (as well as social) characteristics of pidgins and creoles, leading to the rediscovery of Schuchardt's observation that serial verbs (as we now speak of them) are striking, prominent features of (at least many of) these languages, and thus not in any sense peripheral. Thereupon, other linguists began to see that similar phenomena were to be found in various noncreole languages of West Africa, in some languages of East and Southeast Asia, in particular Chinese, and in a number of the languages of the Indian subcontinent.

Second, along with the development of formal syntax in the Chomskyan style came the realization that serial verbs did not have an obvious good analysis within the theoretical frameworks then available, so that the phenomena became a focus of interest to those who would test particular frameworks or argue for changes in them.

Third, along with the rise in systematic studies of language typology and linguistic universals came the need to fit serial verbs into typological schemes and to relate them to other elements of those schemes, in particular coordination and subordination.

The confluence of these different streams flows strongly today, as evidenced by the papers in this volume. The volume is a partial record of a 'mini-conference' on serial verbs held at Ohio State over the 1990 Memorial Day weekend; the program for that conference is reproduced at the end of this introduction.

The conference originated in discussions between the two editors, after we discovered, first, that the two of us were separately engaged in wondering whether phenomena we were investigating for other reasons (in Modern Greek and English, respectively, reported on in Joseph's and Pullum's papers, respectively, in this volume) were in fact instances of serial verbs, and, second, that a number of our colleagues and students at Ohio State had become interested in serial verbs, in a variety of languages, for a variety of reasons of their own. At the same time, the publication of Mark Sebba's dissertation and of Mark Baker's major article on serial verbs had made the topic of serialization one that linguists in general were excited about. Consequently, it seemed an ideal time to assemble the Ohio State linguistics community and explore this topic of mutual interest.

Our intent was to elicit exploratory papers rather than definitive statements, to engage in a joint discussion of possibly relevant data and their theoretical significance. We saw no reason, however, to limit the participants to Ohio State; invitations to submit brief abstracts were sent out to linguistics programs and to a few scholars we knew to be working on relevant questions. The response was enthusiastic, as can be seen from the program below.

The mini-conference was achieved on a mini-budget, and we would like to acknowledge the support of the College of Humanities as the source of funds for this effort, including the travel money for James D. McCawley, who acted as a "designated discussant" for all the papers.

Participants were pressed to supply their manuscripts with dispatch, so that the lag time to dissemination in this volume could be reduced as much as possible; we intend to stimulate discussion on current research, not to archive the research of years gone by. To help achieve this end, we have not edited the papers; they appear here as submitted in camera-ready copy by their authors. The papers appear in their order of presentation at the conference. Not all papers actually read at the conference were written up for publication in this volume; those not appearing here are marked with an asterisk on the program below, and note that the titles of some have changed inthe written versions.

These are preliminary working-papers versions. Their authors are free to publish them elsewhere as they stand, or to publish new versions of them. This means both that readers might want to provide comments and criticisms of the current versions to their authors, and that although the current versions are citable and quotable, those who wish to cite or quote a paper should check with its author to find out if a more definitive version has appeared or is in press.

Brian D. Joseph
Arnold M. Zwicky
Columbus, Ohio
December 1990

# THE OHIO STATE UNIVERSITY MINI-CONFERENCE ON SERIAL VERBS

**The University Ramada Inn, 3110 Olentangy River Road, Columbus, Ohio**

Saturday, May 26:

8:45 - 9:00: Welcome

9:00 - 10:00: "What are we talking about when we talk about serial verbs?",
Arnold M. Zwicky, The Ohio State University & Stanford University

10:00 - 10:30: "The Definition of Serial Verbs",
Pieter Seuren, Nijmegen University

BREAK

10:50 - 11:20: "On the Definition and Distribution of Serial Verb Constructions",
Eric Schiller, Wayne State University & The University of Chicago

11:20 - 11:50: "Parataxis in White Hmong",
Elizabeth Riddle, Ball State University

11:50 - 12:15: "On Arguing for Serial Verbs (with Special Reference to Greek)",
Brian D. Joseph, The Ohio State University

LUNCH

2:00 - 2:30: "Serialization and Subordination in Gullah: Toward a Definition of Serialization",
Salikoko Mufwene, University of Georgia

2:30 - 3:00: "Serial Verbs and Motion Events in New World Creoles",
Don Winford, The Ohio State University

3:00 - 3:30: "'Tense' Scope and Spreading in Serial Verb Constructions",
Frank Byrne, Shawnee State University

BREAK

4:00 - 4:30: "Serializability and the Structure of Eventhood in Gengbe",
Marshall Lewis, Indiana University

4:30 - 5:00: "The Semantic and Pragmatic Properties of Serial Verb Construction in Marathi",
Rajeshwari Pandharipande, The University of Illinois

*5:00 - 5:30: "Against 'Object Sharing' in Serial Verb Constructions",
Mithilesh K. Mishra, University of Illinois
5:30 - 6:00: "Serial Verbs in Tamil",
Sabita Nagarajan, University of Delaware

DINNER

PARTY (Details to be announced)

Sunday, May 27:

9:00 - 10:00: "Serial Verbs in Colloquial English",
Geoffrey K. Pullum, University of California at Santa Cruz
10:00 - 10:30: "Walapai Serial and Phrasal Verbs",
James E. Redden, Southern Illinois University

BREAK

11:00 - 11:30: "Verb Concatenation in Classical Japanese",
Charles Quinn, The Ohio State University
*11:30 - 12:00: "Light Verbs and Predicate Demotion in Japanese",
Stanley Dubinsky, The University of Wisconsin
12:00 - 12:30: "Serial Verbs in Korean",
In Hee Jo, Ball State University

LUNCH

2:15 - 2:45: "On Serial Verbs in Mandarin Chinese: VV Compounds and Co-Verbial Phrases",
Claire Chang, University of Hawaii at Manoa
2:45 - 3:15: "Reclassification of Serial Verb Expressions in Mandarin Chinese",
John Xiang-ling Dai, The Ohio State University
3:15 - 3:45: "Serial Verbs in Arabic",
Lutfi Hussein, The Ohio State University
3:45 - 4:15: "A Categorial Grammar Analysis of Serial Verbs",
Kate Welker, The Ohio State University

## OSUWPL #39

# When Verbs Collide: Papers from the (1990) Ohio State Mini-Conference on Serial Verbs

Edited by Brian D. Joseph and Arnold M. Zwicky

## Table of Contents

Arnold M. Zwicky, "What are we talking about when we talk about serial verbs?" ........ 1

Pieter Seuren, "Serial Verb Constructions" ........ 14

Eric Schiller, "On the Definition and Distribution of Serial Verb Constructions" ........ 34

Elizabeth Riddle, "Parataxis in White Hmong" ........ 65

Brian D. Joseph, "On Arguing for Serial Verbs (with Special Reference to Modern Greek)" ........ 77

Salikoko Mufwene, "Serialization and Subordination in Gullah: Toward a Definition of Serialization" ........ 91

Don Winford, "Serial Verb Constructions and Motion Events in Caribbean English Creoles" ........ 109

Frank Byrne, "Tense Marking in Serial Structures" ........ 149

Rajeshwari Pandharipande, "Serial Verb Construction in Marathi" ........ 178

Sabita Nagarajan, "Tamil Serial Verbs" ........ 200

Geoffrey K. Pullum, "Constraints on intransitive quasi-serial verb constructions in modern colloquial English" ........ 218

James E. Redden, "Serial vs. Consecutive Verbs in Walapai" ........ 240

Charles Quinn, "Suffixal Concatenation in the Classical Japanese Predicate: Erstwhile Serial Verbs?" ........ 247

In-Hee Jo, "Multi-verb Constructions in Korean" .......................... 265

Claire Hsun-huei Chang, "On Serial Verbs in Mandarin Chinese: VV Compounds and Co-verbial Phrases" .......................... 288

John Xiang-Ling Dai, "Syntactic Constructions in Serial Verb Expressions in Chinese" .......................... 316

Lutfi Hussein, "Serial Verbs in Colloquial Arabic" .......................... 340

Katherine Welker, "A Categorial Grammar Analysis of Serial Verbs" .......................... 355

# What are we talking about when we talk about serial verbs?

Arnold M. Zwicky
Ohio State University and Stanford University

## 1. On technical terminology

A major task in theorizing about language (or anything else) is deciding which concepts are significant, and as a result deciding which ones we need terms for. This task is not a matter of discovering what existing terms - *subject, preposition, topic, passive, case, head,* and so on, to choose examples from linguistics - really mean, though sometimes linguists talk as if it were.

There are at least three sorts of terminology in a scientific enterprise: (a) pretheoretical umbrella terms; (b) historically faithful terms; and (c) genuinely theoretical terms.

Consider the term *clitic*, defined as an item 'with some word-like characteristics and some affixal characteristics' by Nevis (1986: 2). Here *clitic* is a pretheoretical umbrella term, picking out a class of phenomena that are in some way problematic in theorizing. The term defines a problem rather than providing a solution. Indeed, there is no guarantee that these phenomena will share any theoretically important properties.

Then consider what the *OED1* provides in its entry for *enclitic*:

> *adj* That 'leans its accent on the preceding word' (Liddell and Scott): in Greek grammar the distinctive epithet of those words which have no accent, and which (when phonetic laws permit) cause a secondary accent to be laid on the last syllable of the word which they follow. Hence applied to the analogous Latin particles *-que, -ve, -ne,* etc., and in mod. use (with extension of sense) to those unemphatic words in other langs. that are treated in pronunciation as if forming part of the preceding word.

Here we have the historical original for the term *clitic*, along with some description of the way in which its application has been (modestly) extended from particular exemplars in Greek.

Finally, consider the fate of the term *clitic* in recent theorizing about the organization of grammar. Almost all students of clitics (in the pretheoretical-umbrella sense) find it necessary to distinguish three or more different types of phenomena, which share nothing beyond presenting some problem in deciding whether they are independent words or inflectional affixes. Nevis, in fact, distinguishes four: prosodically dependent material (a *leaner*, as in *I saw'em*); an independent syntactic word that together with adjacent syntactic word(s) instantiates a morphological unit, a type of (super)lexeme (a *bound word*, as in *Pat's my friend*); an independent syntactic word that is located with respect to some syntactic constituent (a *quasi-clitic*, like *igitur* 'therefore' and other second-position adverbs in Latin); and a phonological operation realizing a set of grammatical categories associated with a syntactic phrase (a *phrasal affix*, as in *anyone you meet's reaction*).

These snapshots of the use of the term *clitic* could be matched by similar sets for many other terms, among them *compound*, *noun incorporation*, and *portmanteau.* Developing a theory involves extending historically faithful terms, splitting umbrella terms, and discovering unexpected dimensions uniting subtypes that fall under different umbrella terms.

I must also point out that the role of a technical term can't be accurately predicted from the ordinary (nontechnical) meanings of its parts. Technical terms can be well or badly chosen, but in principle they are entirely arbitrary labels. This is a fact that all of us have trouble bearing in mind, however. An anecdote: My partner, an avid crossword puzzle solver, once came across a five-letter word defined as 'carnivore' in such a puzzle, and was stumped despite having firmly determined its first and last letters: **P...A**. He was not happy to be told that the answer was **PANDA**, for pandas are animals noted for their exclusively vegetarian, indeed exclusively bamboo, diet, and he was not mollified by being told that *carnivore* was being used here in its technical sense, 'member of the order Carnivora'. Now the name of the order is a good one, since most of the species in the order are primarily meat-eaters. But the label for the order could have been an arbitrary number, without any loss to zoology, and with some gain in avoiding confusion, since there would then be no suggestion that other species of meat-eating animals, like human beings and raptor birds, might belong to the order.

We need to attend to this simple lesson here. Serial verbs are so called because they, or at least the primary examples of them, involve verbs in series. But the technical term might well be applied to constructions that are not evidently serial ('panda' instances) or withheld from constructions that seem clearly serial ('raptor' instances).

For the most part the term *serial verb* has been used in the literature either as an umbrella term or as a historically faithful term. In the first case a serial is any combination of two or more verbal constituents which is problematic because it exhibits some properties of subordination and some of coordination (thus cutting across apparently well-established types), possibly exhibiting as well both the independence of parts characteristic of syntactic phrases and the 'intimate combination' characteristic of syntactic words (thus cutting across other apparently well-established types). In the second case a serial is an intimate multi-V combination much like the constructions to which the label was applied by Stewart (1963), namely those exhibiting 'object sharing': a single NP serving as direct object of one verb and as subject (HIT DOGS DIE 'hit dogs so that they die, kill dogs by hitting') or as direct object (HIT DOGS KILL, with the same range of meanings) of the other verb.

The latter usage appears in two influential recent works on serials, Sebba (1987) and Baker (1989), and was adopted by Seuren in his paper at this conference. Linguists are, of course, entitled to use terminology in any way they find comfortable, so long as they are clear about what they are doing. But there is no question here of deciding which examples are really serial verbs and which are just some other problematic type of V + V combination. The pretheoretical-umbrella usage, which takes in a much wider range of phenomena while still excluding instances of ordinary VP complements to Vs (*try to leave*, *make them go*), coordinated Vs or VPs (*sing and dance*), adverbial modifiers of Vs (*go away*), adpositional complements or modifiers of Vs (*rebel against the government*, *strike them with a sword*), and so on, is just as valid a choice of terminology.

A few writers, notably Noonan (1985) and Foley & Van Valin (1984: chs. 5, 6) have attempted to sort out a variety of types of 'serial verbs', in the broad sense, though for some reason their work has been disregarded in the theoretically directed literature on serials.

My intention in the body of this paper is to contribute further to this small tradition. In section 2 I survey possibly relevant properties of valency-increasing constructions (subordination or hypotaxis, verbal complementation in particular), in section 3 possibly relevant properties of valency-maintaining constructions (coordination or parataxis, verbal coordination in particular), in sections 4 and 5 possibly relevant properties of 'intimate combinations' in syntax, and in section 6 several further possibly relevant parameters of syntactic constructions. The point of these exercises in inventory-taking is to see how the various properties can be combined so as to yield different sorts of problematic constructions; section 7 touches on a sampling of these problematic combinations. Ideally, we should devise technical terms for each of these sorts of constructions, though this is a task I will not attempt here.

## 2. Valency-increasing constructions

Subordination/hypotaxis is the adding of dependents to a head, either as arguments/complements or as modifiers/adjuncts.

### 2.1. Verbal complementation

For the special case of verbal complementation, there at least four properties that are possibly relevant to the analysis of serial verbs.

First, verbal complementation constructions combine a VW head, that is, a head of category V and of word (W) rank (a 'lexical' or '0-bar' category), with a VP argument, that is, an argument of category V and of phrase (P) rank (and possibly with other arguments as well). From this general characterization of verbal complementation constructions the remaining three properties follow.

Second, since the head in any particular construction is of rank W, there is a special subcategory of lexemes eligible to occur as the head in that construction.

Third, since the argument is of rank P, there is a fully open set of eligible complements, subject only to constraints following from the semantics of the construction and the participating constituents.

Fourth, since this is a head-argument construction, there is government by the head of a grammatical category on the argument - more specifically, government by the head VW of some nonfinite grammatical category on the argument VP, with this category realized in inflectional morphology or a marker lexeme within the VP.

Note that a language can have many different constructions of this type.

### 2.2. Verbal modification

Verbal constituents can also combine as heads with modifiers rather than arguments. Modifiers normally are optional ((*never*) *leave me*) and can be strung together (*never even mention it*), and it is the modifier position that can be restricted to a specific subcategory of lexemes, while the head position is fully open, again subject only to constraints following from the semantics of the construction and the participating constituents.

## 3. Valency-maintaining constructions

In coordination/parataxis (verbal coordination, in particular) constituents with the same external syntax - the same possibilities for further syntactic combination - together form a constituent with the very same external syntax. There are at least six properties that are possibly relevant to the analysis of serial verbs.

First, a coordination construction has multiple heads. Second, these heads have the same category and rank. And third, they are structurally parallel with (that is, sisters of) one another. For verbal coordination, then, we have either VWs or VPs in sequence.

Fourth, given that a coordination construction has multiple heads, it exhibits sharing of the grammatical relation they bear to an external argument (as in *Chris sang and danced*) or head (as in *Chris and Robin sang*).

Fifth, given the sharing of an external grammatical relation, a coordination construction also exhibits sharing of (that is, parallelism in) the grammatical categories that mark this grammatical relation. The grammatical categories in question might mark agreement (as in *Chris sang and danced*) or government (as in *Pat was applauded and congratulated*).

Sixth, extraction of or from one member of the construction is prohibited; Ross's (1967) Coordinate Structure Constraint is in full force.

Note again that a language can have many different constructions of this type.

## 4. Intimate combination

While serial verbs are clearly syntactic phenomena, they routinely exhibit a closeness of combination that more resembles the way syntactic words join with another (to form compounds) than the way syntactic phrases do (to form larger phrases); note Foley & Van Valin's (1984) discussion of 'nuclear and core junctures' and Noonan's (1985: 55, 76-8) treatment of properties uniting and distinguishing 'serialization' and 'parataxis'. There are at least six properties of intimate combinations that are possibly relevant to the analysis of serial verbs.

First, the participants in an intimate combination are of rank W rather than P. In verbal constructions, these are VWs.

Second, an intimate combination lacks any marker of the syntactic relationship between the participant Ws. There is simple juxtaposition, without marker of subordination or coordination.

Third, there is a close semantic tie between the participant Ws. In verbal constructions, the VWs together describe a single event.

Fourth, given this close semantic tie, there is a single mood, evidential status, aspect, tense, and/or polarity for the whole combination.

Fifth, the participant Ws, and possibly their internal arguments and/or modifiers as well, are joined into a word-like unit.

Sixth, in addition to the external sharing of grammatical relations characteristic of coordination, there is an internal sharing of grammatical relations, with a single internal argument standing in some grammatical relation to each of the participant Ws. For verbal constructions this is the 'object sharing' mentioned above.

## 5. Word-like units

It is not enough to say that an intimate combination is a 'word-like unit', for as I have emphasized in other works (Zwicky 1990a, b; cf. Sadock 1985, Di Sciullo & Williams 1987), there are at least three different types of word-like units that must be distinguished.

First, there are Ws, *syntactic words*, subexpressions of lowest rank (below the phrase and clause ranks). Second, there are *lexemes* (also known as *moremes*, *morphological words*, and *vocabulary words*), the expression-types that morphology describes regularities in. And third, there are chunks of stuff with partially unpredictable semantics. We might say that Ws are the small units of syntax, lexemes the large units of morphology. Chunks of stuff with partially unpredictable semantics come in all sizes (e.g., *been to X* 'visited X', *give credence to X*, *get X's goat*), though the default seems to be that lexemes are such chunks and that syntactic constituents larger than Ws are not; in any case, I do not view idiomaticity (or 'lexicalization', as it is sometimes confusingly called) as a particularly reliable concomitant of either rank W or lexeme status.

When two or more Ws together constitute a W (as in certain types of compounds), the participant Ws will be inseparable from one another, since neither participant (each being a W rather than a P) will be able to occur with a dependent. That is, there will be an 'intervention constraint' prohibiting a syntactic constituent from separating the Ws. The participants will also not be extractable, since extraction affects only Ps.

When a sequence of two or more Ws comprises a unit instantiating some lexeme (as in certain types of compounds and in clitic groups of the 'bound word' type), intervention and extraction are again prohibited. In addition, there is the possibility of constraints on the phonological makeup of the participants, like those operative in ordinary compounds (where specific stems of the source lexemes are required) and clitic groups (where specific shapes of the clitic forms are required), and indeed in derivational and inflectional morphology.

## 6. Further distinctions

Some unclarities and indeterminacies remain in the preceding discussion. Further distinctions are called for.

### 6.1. Constructions versus idioms

To begin with, there are two ways in which constituents, verbal constituents included, can be said to combine with one another and invoke an associated semantics and pragmatics (Zwicky 1989). On the one hand there are *constructions*, which are syntactically fully general (except possibly for idiosyncrasies in the list

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of lexemes eligible to serve in certain designated - head or 'foot' - W positions). On the other hand, there are *idioms*, with idiosyncrasies possible in any position; these are 'parasitic on' - constitute instances of - various constructions in their language.

Some instances of verbs in series are clearly idioms, since all the participating verbs are fixed: *let go* (*of*) in *Jean let go* (*of the crocodile*); *go to show* in *It goes to show that you shouldn't mess with penguins*; and *hear tell* in *I hear tell that Pegasus will win the race.* (Some such idioms involve lexemes that are not even obviously verbs any more, like *pray* in *pray tell*: *What is your name, pray tell?*)

## 6.2. Heads versus bases

There are also two ways in which a constituent can be said to be the head of its construct. On the one hand, there is the morphosyntactic locus, the *head* à la GPSG and also the trigger for government and the constituent from which the construct inherits its category. On the other hand, there is the semantically characterizing constituent, what I will call the *base*, which is also the syntactically obligatory constituent, in a special sense of *obligatory*: Without this base constituent, the construct is elliptical - (*They haven't seen penguins, but*) *I have*, with the base VP missing, or (*I ate chicken, and*) *Kim fish*, with the base V missing - but without the (non-base) companion of this constituent, the construct is simply of a different type - a nonauxiliary VP in *I noticed* versus an auxiliary VP in *I have noticed*, an intransitive VP in *Kim ate* versus a transitive VP in *Kim ate fish.*

There are then three somewhat different senses in which subordinate constructions can be said to have a single central constituent while coordinate constructions have two or more: single versus multiple heads, single versus multiple bases, or a single head/base versus a head plus a base. For instance, given that English modal auxiliaries serve as head Vs in combination with VP bases, the 'double modal' combinations of some dialects (*Terry might could fix this*; see Di Paolo 1988, 1989) seem to be multi-headed rather than multi-based combinations.

## 6.3. Locations

Nothing I have said about the head in a serial verb construction picks out the first verbal constituent as the head, though in most familiar examples (from verb-medial languages) this is the case. However, we should expect that in a verb-final language serial verb constructions would be head-final, and also that a language might have some serials with heads located finally and some with heads located initially.

Indeed, verbs in series that represent head plus modifier, rather than head plus argument, constructions should be able to reproduce any order available to verb modifiers in their language. Even English might then be said to have some head-final serials, in particular combinations involving the marker of suggestions *let's* (*Let's* (*you and me*) *see what's happening*) and the imperative markers *do* and *don't* (*Do be quiet! Don't* (*you*) *be so noisy!*), if these markers are to be analyzed as VW modifiers of verbal (in fact, clausal) head constituents.

### 6.4. Ranks

Note that the constituents involved in serials can be of any rank - word, phrase ($V^1$ or $V^2$, in frameworks that make at least two levels of phrases available), or clause - and that a language could have different serial constructions involving different ranks.

### 6.5. Categories other than V

In syntactic combinations involving some restricted class of lexemes plus some open companion constituent, the category membership of the items in the restricted slot is often unclear. Certainly the restricted class is not always to be analyzed as some subcategory of V, even if the lexemes in question had their historical origins as Vs.

In particular, the restricted class might be a subcategory of P, comprising adpositions (Durie 1988), or a subcategory of Adv, comprising for instance directional adverbials (Crapo 1970). In English, the politeness marker *please* (*Please don't eat the daisies!*) is presumably to be analyzed as a sentence adverbial, despite its verbal origins. In other languages, for instance Yoruba, there has been some controversy as to the verbal or adverbial nature of items in the restricted class; see the early exchange between Schachter (1974a, b) and Stahlke (1974), for instance. (I should note the possibility that items of one syntactic category, like V, might be serving in the syntactic function characteristic of some other category, for instance Adverbial. Not all syntactic differences are matters of the assignment of syntactic categories to constituents.)

Despite this caveat, it seems to me that many more things turn out to be Vs than one might have thought - witness, for example, Pullum's (1982) arguments that infinitival *to* is a V - so that the world of Vs in series might be surprisingly populous.

### 7. Combinations of parameters

I have now enumerated a rather large number of grammatical paramaters. There are significant connections between some of these, but to a large extent they can vary independently, yielding a huge variety of types of combinations, several of which can co-occur in a single language. That is, the short answer to the question posed in the title of this article is, 'Lots of things' - certainly many more than we have established names for.

In what follows I will provide a few examples of how properties run across serials and non-serials and show that some serials have certain of the characteristic properties while others lack them.

### 7.1. Unmarked coordination

Though lack of explicit marking is characteristic of the intimate combination seen in serials, asyndetic, or unmarked, coordination is amply attested in the world's languages.

Here is Payne (1985: 25) on the 'zero strategy in coordination': 'The conjuncts are simply juxtaposed, with no additional markers of conjunction. Such a strategy is probably available to all languages, though it may be stylistically marked, as in

English. In many languages, however, it is a normal alternative, existing side by side with other strategies at various levels.' Turkish, Tatar, Nogai, Latin, and Sanskrit are cited as languages with asyndetic coordination as a normal alternative.

Payne (1985: 26) adds, 'More significantly, the zero strategy appears to be the only strategy permitted at certain levels in some languages', for instance, Pacoh and Vietnamese.

### 7.2. Singly marked coordination

According to Payne (1985: 27), 'In languages which use the zero strategy for VP conjunction and possess inflected verb forms, it is sometimes the case that only one of the conjoined verbs is given the full inflections, though the remainder, in some kind of dependent paradigm, are interpreted as if they were inflected in the same manner.' Yagnobi and Turkish are cited as examples.

Singly marked coordination is not foreign to Indo-European. Kiparsky (1968) discusses the strategy, common in the earlier Indo-European languages, of marking mood and/or tense - in phrasal coordination, indeed in discourse sequencing - only in the first VP, with later VPs appearing in some (relatively) unmarked form. Examples like these suggest discourse reasons for having the marked VP first in a sequence of VPs, regardless of the word-order type of a language.

The morphology of singly marked coordination makes such a construction look subordinate, since there is one verbal constituent that is evidently the morphosyntactic locus, plus one or more others that appear to be in some non-finite governed category also used in subordination.

### 7.3. Special coordinative categories

In one variant of singly marked coordination, some languages provide a special grammatical category for the 'non-head' Vs. This category might be labeled *consecutive*, *conjunctive*, or *conjunct*, and it is often classified as a mood. In any event, such a category functions specifically to convey the semantics (joint action, concurrent events, consecutive events, result) of coordination. The 'conjunctive' or 'adverbial' participle in Dravidian (Steever 1988: ch. 1) is a case in point; note that Steever speaks of singly marked coordination in Dravidian languages as 'serial verb formation'.

### 7.4. Distributed categories

Though many of the stock examples of languages with serial verbs lack the verbal morphology that would allow us to classify the serial constructions as subordinate or coordinate on the basis of the way finite and non-finite grammatical categories are distributed, it is generally assumed that serials look morphologically subordinate. But there are 'serial verbs' with tense or other grammatical categories distributed across the companion VWs.

This point was made by Stahlke (1970); see also Lefebvre (1986) on Abey and Bickerton (1989) on Seselwa. There are illustrations even from English: double modals like *might could* in non-standard varieties; *up and V*, as in *They upped and left*; and, as Pullum and I claim (see his paper in this volume), the *go V* construction, as in *You've come put water on my plants far too many times.* (English also has 'ordinary' serials, in which only the head - typically, the first -

VW is tensed: for instance, the idiom *hear tell*, as in *I've heard tell that a pound of lead is as heavy as a pound of gold*.) McCawley (1988: 282) provides an Swedish example of distributed serialization, as in *Han gick och badade* 'He went swimming' (literally, 'He went and swam'); 'both conjuncts must bear the same inflection but the verb of the first conjunct behaves like the main verb of the whole sentence even with regard to Inversion and Negative placement.'

### 7.5. Syntactic, but not morphological, words

Many languages have V + V sequences that are intimately combined from the point of view of syntax - they make syntactic Ws - but not from the point of view of morphology, since the sequences do not seem to be instances of any sort of lexeme. Such sequences are like compounds in one way but not in another.

Under this heading fall the causative 'clause union' (as they are termed in Relational Grammar) constructions of several of the Romance languages, for instance Spanish (Aissen & Perlmutter 1983), as in *Los hice caminar* (them I-made to-walk) 'I made them walk'. Under this heading also fall non-causative clause unions, for instance the English contracted infinitivals *wanna, gonna, hafta*, etc. on the analysis due to Frantz (1979) and suggested also by Postal & Pullum (1982) and Pullum & Zwicky (1988).

### 7.6. Morphological, but not syntactic, words

Some languages have V + V sequences that are intimately combined from the point of view of morphology - such sequences are occurrences of lexemes - but not from the point of view of syntax, since the sequences do not seem to make syntactic Ws. Again, we have sequences that are like compounds in one way but not in another.

This is the sort of analysis I would suggest (and have, in Zwicky 1990a, 1990b) for the English *go V* construction, as in *Go see who's at the door*. The syntax of this construction is that of subordination, with a head VW chosen from a small subcategory of lexemes (comprising only *go* and *come* for some speakers) and an argument VP that is entirely open, subject only to the semantic requirements of the construction (that the VP describe an activity). However, from a morphological point of view the verbs in sequence behave like compounds, as is evidenced by their complete resistance to having syntactic constituents intervene between their participants - **Go away see who's at the door* and **Go quickly see who's at the door* (Perlmutter 1971: 95-7) - and by the requirement (for some speakers; see Pullum's discussion in this volume) that all the participants appear in their base, or unmarked-infinitive, form: *Run come see Jerusalem!*, **I ran came saw Jerusalem*, even **I've run come seen Jerusalem*. A requirement that all the lexemes participating in some construction must be in some specific form, especially the base form, is commonplace in compounding.

### 7.7. Idioms parasitic on serial constructions

Some serialization examples are idioms rather than constructions. This is clearly the case for the English dismissive serializations *go jump in the lake* and *go fly a kite*, which are parasitic on the *go V* construction.

## 7.8. Constructions marked as coordinate or subordinate

While garden-variety serials are unmarked, as is the *go V* construction in English, there are both coordinatively marked serials (in English, *try and V*, as in *I'll try and see what's wrong*; *up and V*, as in *They'll up and bite you*; and *go and V*, as in *They'll go and bite you*) and subordinatively marked serials (English *go to V*, as in *I'll go to see what's wrong*).

This division of marked types thus parallels Sebba's (1987) division of unmarked serials, into coordinate and subordinate types. Indeed, as Sebba notes for the unmarked serials, constructions of both types typically co-occur in a single language.

## 8. Theoretical matters

This article has been explicitly pretheoretical. My aim has not been to discuss serial verbs within some existing theoretical framework, but rather to provide a conceptual analysis that must find a realization in any fully adequate framework for syntax and morphology - a framework of a sort that, it is clear to me, does not now exist.

For instance, I have cared little here about ontological parsimony; for instance, I have been willing to treat constituency and grammatical relations as of equal significance, without trying to predict one from the other. But I have cared a lot about generative power, in the sense that I have tried not to make assumptions that presuppose very powerful descriptive mechanisms (like multiple syntactic descriptions assigned to a single expression); consequently I have been reluctant to posit empty categories, though these are rife in the GB-based literature on serial verbs.

In general, I have downplayed formalism, preferring to see the issues not as a matter of placing conditions on representations, but rather as a matter of placing conditions on the expressions of a language. As a result, I have not concerned myself with the question of what configurations to assign to (some or all) serial verb constructions, though the literature on serial verbs is preoccupied with exactly this question. Nor have I assumed some fixed formalism for syntactic ranks (like the arithmetic bar-level formalism that is virtually standard in frameworks deriving from Transformational Grammar), or for syntactic features, or for subcategorization.

There is one theoretical issue that deserves further comment. What makes serial verbs interesting is the fact that they cut across established categories, exhibiting properties of both subordination and coordination, and/or of both syntactic and morphological constructions. Mixed, and apparently incompatible, properties occur with some frequency in other syntactic settings; the terms *reanalysis*, *restructuring*, and *readjustment* have been used to embrace such phenomena under a single heading. The phenomena include divergences between syntactic and phonological constituency (as in sentences like *I know that pigs can't fly*, where *that pigs* is a phonological constituent), divergences betwen syntactic and morphological constituency (amply illustrated above), and contradictory evidence about the syntactic constituency of expressions (as when *for-to* complements like *for Whitney to sing* appear to have simultaneously the constituency *for* plus infinitival clause and the constituency PP (= *for* plus subject NP) plus infinitival VP).

Different theoretical frameworks provide different means for describing such divergences. In frameworks that admit multiple syntactic descriptions for a single description, restructuring is straightforwardly a matter of mapping one such description into another, as in the treatment of Japanese purpose expressions (which behave in some ways like a disentential construction, in some ways like a unisentential construction) by Miyagawa (1987). The early literature on serial verbs, for instance Awobuluyi (1973) and Bamgbọse (1974), posited multiple levels of representation without question.

In non-derivational frameworks, there is still the possibility of *coanalysis*, at least for divergences that seem to involve two different components of grammar. I have appealed to coanalysis several times in my discussion of certain types of serial verbs.

For other divergences, a non-derivational framework can provide two sorts of analyses. First, it can posit a syntactic ambiguity where there is no semantic difference; for instance, it can claim that *for Whitney to sing* has two distinct, but semantically equivalent, syntactic descriptions. Or second, it can posit overlapping simultaneous syntactic analyses, these analyses involving either distinct syntactic properties (syntactic constituency and grammatical relations, for instance, as when it is claimed that verbs in series are parallel in their constituent structure, but with one of them serving as head with respect to the others as arguments) or different distributions of the same properties (as when it is claimed that *for* in *for Whitney to sing* is simultaneously in construction with the NP *Whitney* and with the non-finite clause *Whitney to sing*, or when it is claimed that serial verbs simultaneously share their external grammatical relations and have one verb as head with the others as its arguments).

My own metatheoretical preferences are for non-derivational frameworks and (ceteris paribus) against the positing of syntactic ambiguities without accompanying semantic differences. As a result, in my discussion above I have stressed the possibility of coanalysis between different components of grammar (syntax and morphology, in particular) and of simultaneous syntactic analyses.

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# Serial Verb Constructions*

Pieter A.M. Seuren
Nijmegen University, Philosophy Institute
P.O.Box 9105
6500 HK Nijmegen - Netherlands

## 0. Introduction

It is a curious fact in linguistics that terms sometimes gain even wide currency without there being available anything more than a vague and intuitive idea of the phenomena they are meant to cover. A typical case in point is the term *serial verb construction* (SVC), which has been around at least since Stewart (1963), preceded by Voorhoeve's (1957) coinage *verbal chain*. Welmers (1973:366-380) devotes 14 large pages to SVCs without providing anything like a definition, as he himself explicitly admits (p.366):

> Serialization has attracted the attention of a number of graduate students in linguistics in recent years, and several unpublished papers have been written on the subject from the viewpoint of transformational-generative grammar. All of the writers agree that an adequate treatment is perhaps impossible within the framework of current grammatical models. None of the writers has been entirely satisfied with his own treatment of the subject. I will not presume to suggest a competing treatment, but will outlinbe the data from some languages in as clear and systematic a way as possible.

Since 1973, the situation has not essentially changed, though several attempts have been made at getting closer to a proper definition of SVCs, the most notable being Sebba (1987). In fact, the situation with SVCs is not all that different from what is found with *ideophones*, the sound-symbolic forms frequently found in African and other languages. Welmers, again, writes (1973:459-60):

> Unfortunately, when it comes to talking about ideophones, for almost every student of African languages — including conspicuously the present author — the "Peter Principle" begins to apply: we are rapidly reaching the level of our own incompetence. Everyone seems to recognize that some words are ideophones, but no one finds it easy to define an ideophone with any precision.

It is the purpose of the present paper, with all due respect, to show Welmers wrong on the issue of how to define SVCs. I believe that SVCc are readily definable once a couple of universal and one or two language-specific classes of phenomena have been recognized and combined. The SVCs then simply "fall out" of the analysis, as is sometimes said nowadays. All they have in the way of universal idiosyncrasy will consist in possible restrictions that may appear to hold for the co-occurring of the, otherwise universal, factors involved. SVCs will thus appear to be a *syndrome*, rather than the sort of half-mysterious (and possibly "primitive") phenomenon they seem to have been thought to be in many works.

The main difficulty lies in the fact that one of the universal classes of phenomena needed to define SVCs, the phenomena of what I have chosen to term *pseudocomplementation*, has so far, to my knowledge, not been discussed at all in the literature. Part of my effort will, therefore, consist in the description and elucidation of the facts of pseudocomplementation. Other than that, the analysis of SVCs as proposed here is relatively independent of the particular syntactic theory one prefers to adopt, as long as the theory in question recognizes, or leaves room for the recognition of, the phenomena at hand.

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* This paper is the third in a series of papers on the subject of defining serial verb constructions. It was preceded by Seuren (to appear a) and (to appear b). In each successive version I try to take better account of the facts while, at the same time, refining the theoretical notions involved, in particular the notion of pseudocomplementation. I am indebted to the participants of the Ohio State University Miniconference on Serial Verbs, held in May 1990, for their valuable input in the way of data and thoughts. In this respect I may single out Eric Schiller, whose knowledge of and ideas about SVCs have stimulated me considerably.

As regards SVCs, another principle than the Peter Principle has been at work there as well. This is the, let us say, Me Too Principle. No sooner had the term been introduced than serial verb constructions were spotted left right and center, even in well-known European languages that had never be thought to possess such an exotic feature. Inevitably, therefore, on pain of not being able to do anything at all, a decision had to be taken as to where to draw the line for the phenomena to be recognized as SVCs. One guiding principle, in drawing that line, was to stay as close as possible to the original phenomena that attracted the descriptive linguists' attention and made them set apart, though for the time being only on impressionistic grounds, the category of serial verb constructions. On the other hand, however, it was necessary to let oneself be guided by the analysis itself. If the clarity and distinctness of the analysis was enhanced by the exclusion or inclusion of certain doubtful or marginal cases, they were, as the case was, excluded or included. Specifically excluded were cases of lexicalized compound verbs like the English *go get*, or of the *go-and-V* type, or the (antiquated) French *saisir revendiquer*, *saisir gager* (both "impound"), *virer tourner* ("turn (a ship)"),[1] or the Mauritian Creole verbal compounds (calqued on the French pattern, no doubt) *mãze bwar* ("eat and drink"), *marse ale* ("go on foot"), *mãze dormi* ("eat and go to bed"), *ale vini* ("come and go"), *galupe vini* ("come running"), *bate rãde* ("beat up mutually", literally "beat and give back"). These are not to be reckoned to be cases of SVC, or else this paper must be deemed to have failed to achieve its purpose.

The centrally relevant phenomena for SVCs are typically found in certain groups of languages in certain restricted geographical areas, notably the Kwa languages spoken in parts of West Africa,[2] most of the Caribbean Creole languages,[3] many East and South-East Asian languages, in particular Chinese and the Khmer group, and, it seems, in some languages of Papua New Guinea, including the Creole language Tok Pisin. Other languages and language groups have been mentioned as possessing SVCs, but the criterion of unity and clarity of the analysis to be presented stamps most of the instances quoted from those as unconvincing or at least unhelpful. The more so since, as will be shown, the decision, given some particular example, of whether or not one has to do with a SVC will have to depend in part on more general features of the language in question.[4]

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[1] A few modern French verbs came into being through this process of verbal compounding, such as *bousculer* ("knock over") from *bouter culer*, or *galvauder* ("botch", "compromise"), from *galer vauder*. I am indebted to Guy Hazaël-Massieux for the information on the French verbal compounds.

[2] McWhorter (1990) discusses eleven Kwa languages and concludes (p.7): "I have found that the Kwa languages demonstrate a remarkable uniformity in their SVC systems."

[3] McWhorter (1990:12) mentions Haitian, Krio, Gullah, Jamaican and Guyanese as Caribbean Creoles with a wide range of SVCs. He might have added Sranan and Saramaccan. As Caribbean Creoles with a limited range of SVCs, i.e. without a TAKE SVC, he mentions Negerhollands and Papiamentu. Trinidadian should also be mentioned here (Lise Winer, p.c.). Outside the Caribbean limited SVCs are found in the Gulf of Guinea Creoles and Tok Pisin (McWhorter, ib.). No SVCs are found in Philippine Creole Spanish, Hawaiian Creole English, Senegal Creole English, and the Indian Ocean French-based Creoles of Réuniuon, Mauritius and the Seychelles.

[4] Bickerton (1989) insists that Seychellois has SVCs, but see my reply (to appear b), where I argue that Bickerton's analysis looks tenable only if the notion of SVC is stretched to the point that it will allow

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**1. Some representative data**

The following are typical cases of SVC (the serial verbs are italicized), as they have been observed in the literature:

(1)a. nws muab riam *hlais* gaij
3sg. take-in-hand knife slice meat
"He cut the meat with a knife" — White Hmong (Schiller 1990a)

b. mi teki a nefi *koti* a brede
I take the knife cut the bread
"I cut the bread with a knife" — Sranan (Sebba 1987:25)

c. Kɔku pote krab *ale* nâ maše
Koku bring crab go in market
"Koku brought a crab to the market" — Haitian Creole (Lefebvre 1986:290)

d. Kɔ̀kú sɔ́ àsɔ̃́ *yì* àxì mɛ̀.
Koku bring crab go market in
"Koku brought a crab to the market" — Fon (Lefebvre 1986:290)

e. mi hari mi bruku *go* te na mi kindi
I pull my trousers go till LOC my knee
"I pulled my trousers up to my knees" — Sranan (Voorhoeve 1975)

f. Sùk ʔaw máy *maa* bâan
Sook take wood come house
"Sook brought the wood home" — Thai (Schiller 1990a)

g. Kofi nyan di ganya *kabá*
Kofi eat the chicken finish
"Kofi has eaten the chicken already" — Saramaccan (Byrne 1987:219)

h. a bigi *pasá* di mii
3sg.tall surpass the child
"He is taller than the child" — Saramaccan (Byrne 1987:225)

i. Kofi bay soni *da* di mujee
Kofi buy something give the woman
"Kofi bought something for the woman" — Saramaccan (Byrne (1987:180)

j. wǒ *gěi* nǐ zuò chǎo fàn
I give you make fried rice
"I'll make fried rice for you" — Chinese (Li & Thompson 1974:271)

k. Kofi fringi a tiki *fadon naki* Amba
Kofi fling the stick fall knock Amba
"Kofi threw the stick at Amba" — Sranan (Sebba 1987:129)

l. mi bribi *taki* yu fufuru en
I believe say you steal 3sg.
"I believe that you stole it" — Sranan

In none of these cases does there seem to be any sign of a tense or aspect marker. In fact, the null marking in these cases is sometimes to be interpreted as a present, as in (1h), and sometimes as a simple past, as is seen from the glosses. When there is an overt tense and/or aspect marking, different patterns are observed. The construction most commonly found in serializing languages is a marking of the commanding main verb ($V_1$) for tense and/or aspect while the serial verb ($V_s$) is left bare, as in (2a), where the PAST morpheme *bi* is to be interpreted as a pluperfect, or (2b), with the combination of PAST and DURATIVE:

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one to identify SVCs in languages that have never (and for good reasons) struck linguists as being of the serializing kind. Bickerton fails, moreover, to offer any kind of structural analysis of SVCs.

(2)a. a bi tsá di meliki go na di konde
he PAST carry the milk go LOC the village
"He had taken the milk to the village" Saramaccan (Byrne 1987:209)

b. dowwatra ben e dropu fadon
dewdrops PAST DUR drip fall down
"Dewdrops were dripping down" Sranan (Seuren 1981:1072)

One does, however, also find languages where the tense/aspect marking of the main verb $V_1$ is, or may be, copied for $V_s$. This form of tense/aspect spreading is demonstrated in (3a-c):

(3)a. a bi féfi di wosu bi kabá
he PAST paint the house PAST finish
"He had painted the house already" Saramaccan (Byrne 1990a)

b. mí a kplọ e a yi afe
we FUT take him FUT go home
"We shall take him home" Ewe (McWhorter 1990:11)

c. mi a fa sekan e twa
I PERF take knife PERF cut
"I have cut with a knife" Akan (Byrne 1990a)

d. wó sɔ́ ná ati po na gli a
they take HAB stick beat HAB wall the
"They usually strike the wall with a stick" Gengbe (Lewis 1990)

Occasionally one comes across languages that allow the tens/aspect marking to be attached to $V_s$, while $V_1$ remains bare. This phenomenon of 'overshooting' is demonstrated in the sentences of (4):

(4)a. a féfi di wosu bi kabá
he paint the house PAST finish
"He had painted the house already" Saramaccan (Byrne 1990a)

b. a téi di góni bi súti di pingó
he take the gun PAST shoot the pig
"He had shot the pig with the gun" Saramaccan (Byrne 1990a)

c. ɔde adare no twàà nehõ
he take machete the cut-PAST himself
"He cut himself with the machete" Akan (Schiller 1990a)[5]

It is clear anyhow, and accepted by all authors on the subject, that the semantics of SVCs does not provide them with a separate tense/aspect marking. Whatever may appear in surface sentences as tense/aspect marking on $V_s$ is copied from $V_1$, whereby $V_1$ may even lose its original markings.

In some languages one also finds, usually optionally, subject spreading, i.e. a pronominal take-up of the main subject with $V_s$, sometimes combined with the copying of tense/aspect markings:[6]

(5)a. mi he noko mi hã lẹ
I buy something I give her
"I bought something for her" Gã (McWhorter 1990:11)

b. me guarèè me bàà mpoanó
I swim-PAST I come-PAST shore
"I swam to the shore" Akan (McWhorter 1990:11)

c. me yèè adwuma me màà Amma
I do-PAST work I give-PAST Amma
"I worked for Amma" Akan (Schachter 1974:260)

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[5] In Akan the PAST tense is signalled by a low high sequence of tones on the verb.

[6] Sebba (1987:86-7) proposes that the defining criteria for SVCs should include the condition that "they have only one overtly expressed (syntactic) subject". It is clear that this is too restrictive.

d. a bi tei peni (a) (bi) sikifi di lete
he PAST take pen (he) (PAST) write the letter
"He had written the letter with a pen" Saramaccan (Byrne 1990b)

That this is mechanical and thus semantically irrelevant spreading, and not a reflex of an element in the semantic structure underlying the surface sentence appears clearly from the remarkable Akan sentence (the Akuapem dialect) quoted by Schachter (1974:258):

(6) me de aburow mi gu msu m
I take corn I flow water in
"I pour corn into the water"

What makes this sentence remarkable is the fact that the copied subject *mi* is clearly not the semantic subject of the $V_s$ *gu*. The semantic subject of *gu* can only be *aburow* (which is the grammatical object of *de*) since it is the corn that is said to end up in the water, not the speaker. Moreover, Schachter observes, the verb *gu* requires a mass or plural subject, much like the English verb *disperse*, so that *mi gu msu-m is ungrammatical as a sentence on its own. There can be no doubt that the copied subject is semantically spurious, and must thus be the result of a mechanical syntactic process of copying.

Moreover, as Schachter observes (1974:266), serial constructions in Akan require a copying of the negation when the main verb is negated, negation being marked by a homorganic nasal prefix. This negation copying is again semantically irrelevant, and clearly the result of some purely syntactic process:

(7) Kofi n-ye adwuma m-ma Amma
Kofi not do work not give Amma
"Kofi does not work for Amma"

Apparently, therefore, SVCs are semantically bare. They do not have their own tense or aspect, nor can they have a negation of their own. Their subjects are, moreover, controlled by, i.e. display (constant or variable) coreferentiality with, either the subject or the direct object of $V_1$. The fact that serial verbs occasionally occur with tense/aspect markers, with an overt pronominal subject, or with a negation is to be attributed to purely syntactic, and thus semantically irrelevant, spreading (copying). It is realized, of course, that spreading phenomena are extremely frequent in all kinds of languages, regardless of whether they have SVCs. (Thus, for example, negation copying is rampant in certain dialects of English, such as Cockney or New York Black English. Subject copying is found in most Flemish dialects of Dutch.) SVCs, moreover, generally lack any kind of overt complementizer.

In general terms one can say that the semantic function of SVCs consists in indicating concomitant circumstance, result or purpose. It has been frequently observed, however, that within these general semantic categories there are certain typical uses for SVCs. Thus there is the TAKE-class, functioning mainly as an intrumental, exemplified in (1a,b), (3c,e), (4b,d) and (5d). Then there is the GIVE-class, fulfilling the role of either a dative or a benefactive, as in (1i,j), (5a,c), or (7). There is a typical SURPASS-class, as in (1h), fulfilling the role of a comparative. Often SVCs serve to signal an 'aktionsart' of the main verb, as in (1g), (3a) or(4a), where a verb meaning "finish" is used to indicate that the action denoted by $V_1$ is over. Another common category of SVCs is the SAY-class, as in (1l), where $V_s$ does the work done by the subordinating conjunction *that* in English. Very widespread is the GO/COME-class, as in (1c-f), (2a), (3b) or (5b), where the SVCs fulfil the role of directional adjuncts. More generally, this class occurs with some $V_s$ of motion or placement, as in (1k), (2b), or (6).

How these different types of SVC are distributed over the serializing languages of the world is still largely unknown, due mainly to the great practical difficulties involved in obtaining correct and systematic data on languages that are often hardly accessible to Western linguists. We will, therefore, have to make do, for the moment, with global impressions. There is, however, at least one striking fact, in that the Kwa language Akan as well as the Surinam Creole language Saramaccan seem to have a special predilection for both optional and obligatory forms of copying of tense/aspect markers, including 'overshooting' as in (4), and syntactic main subjects. (Akan also copies the negation, for which no evidence has been found in Saramaccan.) If this correspondence is statistically relevant, as it seems to be, it provides a forceful argument in favor of a Kwa substrate for this construction in Saramaccan. This is borne out further by Price (1976), who concludes, on the basis of both detailed historical-demographical data and cultural and linguistic indications (pp.33-5), that the bulk of the Surinamese Saramaka tribe, consisting of runaway slaves (Maroons), originated from the coastal region between the river Volta in the West and present-day Lagos in the East, i.e. Kwa territory. Such a conclusion would contradict Bickerton's universalist thesis (1981:117-32) that SVCs in Creole languages are not derived from substrates but from an innate language faculty ('bioprogram'). Cp.also note 8 below.

SVCs are found mostly in SVO (=NP-VP) languages. They do, however, also occur in languages of other basic word order types, such as VSO and SOV. An SOV example from the Kwa language Ijo is (8):

(8) eri edein bí àkụ bó mi
he knife the take come PAST
"He brought the knife" Ijo (McWhorter 1990:8)

Schiller (1990b) provides more examples from SOV languages. (9a) is from Yi, a Tibeto-Burman language related to Chinese and of predominantly SOV order. (9b) is from Lahu, a related SOV language. (9c) is from Barai (Papua New Guinea).

(9)a. ŋa jɛ b'ɛ t'v sɯ ɯv kɯ
my mother clothes put trunk inside-he at
"My mother put the clothes in the trunk" Yi (Schiller 1990b:8)

b. ŋà ɔ-e vɔ̀ʔ-qâ thàʔ ɯ-qɔ ɔ-qho ka ta ve yò
my mother clothes OBJ box inside put PT PT PT
"My mother put the clothes in the trunk" Lahu (Schiller 1990b:8)

c. fu bureda ije sime abe ufu
3sg bread the knife take cut
"He cuts the bread with a knife" Barai (Schiller 1990b:7)

SVCs seem to occur only rarely inVSO languages. Ravüa, a Mon-Khmer language of the Wa group, is one:

(10)a. ti me ho taw lik me pin kè-en
take you go send letter you accompany to-here
"Go, take the letter and come back" Ravüa (Schiller 1990b:5)

b. ti me b pin kè-en
take you it accompany to-here
"Bring it here" Ravüa (Drage 1907:61)

The precise structural analysis of SVCs in SOV and VSO languages will be discussed below.

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## 2. Pseudocomplementation.

In order to understand verb serialization it is necessary to devote some attention to the phenomenon of what will be called here *pseudocomplementation*, a phenomenon found in many if not all languages of the world in different guises. We speak of pseudocomplementation when we have to do with a clausal or sentential structure, an embedded S, which is treated syntactically as if it were a normal S-complement (subject-S or object-S), whereas its semantic role is not that of an S-complement but, rather, one of concomitant, resultative or purposive circumstance or event. A pseudocomplement is a supposititious sentential complement foisted on the syntax of a verb which either does not require such a complement semantically, or, if it does, does not allow for it on grounds of lexico-grammatical restrictions.

English allows for pseudocomplementation with the verb *go* as $V_1$, as in:

(11) John went fishing

The gerund *fishing* is treated syntactically in such a sentence as though it were the result of an embedded object clause, as in:

(12) John likes fishing

but semantically it can hardly be an object clause to the intransitive verb *go*. Pseudocomplementation, with object-controlled subject deletion, is found frequently in English (and many other languages) with adjectives as $V_2$, as is shown in the following sentences:

(13)a. John hammered the nail flat
b. I laughed myself silly

If the adjectives *flat* and *silly* are treated as predicates labeled "V" in semantically analytic representations, and if we mark the relation of coreferentiality between the controlling higher NP and the deleted lower subject by means of a subscript *x*, then (13a,b) have an underlying predicate-argument structure ${}_{S_1}[V_1 - \text{Subject} - \text{Object}_x - {}_{S_2}[V_2 - {}_{NP}[x]]$, where the embedded $S_2$ occupies the position of an object-controlled object clause, precisely as in, for example:

(14) I helped the man walk

However, in (14) the embedded ${}_{S_2}[{}_{V}[\text{walk}] - {}_{NP}[x]]$ is a proper semantic argument to the verb *help*, since one cannot help a person unless it is with something that person is trying to achieve. This is different with (11) and (13a,b), since one can go, hammer a nail or laugh without it having to be the case that, respectively, one goes with a purpose, the nail undergoes a change of form or position, or the person laughing gets in some mental state other than the one associated with the laughing. It is, of course, *possible* that one goes with a purpose, etc., and that possibility has been grammaticalized in English in the form of embedded Ss that are treated syntactically according to the normal rules of clausal complementation.

Pseudocomplementation is common in Dutch with the intransitive main verbs *gaan* ("go"), *staan* ("stand"), *zitten* ("sit"), *lopen* ("walk") and *liggen* ("lie"), which treat their pseudocomplements exactly like other verbs treat their real complements, i.e. by application of the rule of Predicate Raising, which incorporates the lower $V_2$ with the main $V_1$ into a verbal cluster that takes the argument terms of both the main clause $S_1$ and the subordinate clause $S_2$ as its argument terms, in the order in which they occur. Dutch thus has sentences like (15a,b), where (15a) is a case of semantically genuine complementation and (15b) of pseudocomplementation:

(15)a. **Karel heeft Hans een verhaal willen vertellen**
**Karel has Hans a story want tell**
**"Karel has wanted to tell Hans a story"**

b. **Karel heeft Hans een verhaal lopen vertellen**
**Karel has Hans a story walk tell**
**"Karel has told Hans a story while walking"**

Both sentences have the underlying predicate-argument structure ${}_{S_1}[V_1 - {}_{NP}[\text{Karel}_x] - {}_{S_2}[{}_{V}[\text{vertellen}] - {}_{NP}[x] - {}_{NP}[\text{Hans}] - {}_{NP}[\text{een verhaal}]]]$, with *willen* ("want") as $V_1$ in (15a) and *lopen* ("walk") as $V_1$ in (15b).

It must be realized that argument structure can be a dicy thing. Roughly one might say that a genuine argument term to a predicate fills a word-specific relation place without which the corresponding notion is not fully defined. This excludes parameters of place, space, direction, time, etc., which are category-specific, not word-specific. It includes object parameters for e.g. *eat, drink, throw, activate, build, write, send, full of, title of*, etc. etc., regardless of whether such predicates take an obligatory or an optional overt object term. Given a certain margin of choice, it may include the precise minimal sleeping place with *sleep in/on*, in so far as *sleep* denotes the typical daily recurring human activity of lying down and curling up, normally for the night, but it excludes larger locations, which are category-specific. Hence the possibility of a passive in (16a) but not in (16b):

(16)a. This bed has been slept in.
b. ! This town has been slept in.

It includes the nonliteral object of a verb like *go over*, but excludes its literal object, as appears, again, from the passive:

(17)a. The matter was gone over in five minutes.
b. ! The bridge was gone over in five minutes.

This criterion is admittedly not watertight. Yet it provides some guidance in what is, on the whole, a difficult area. It should be noticed that this criterion, as given here, does not imply that a predicate *must* have an argument place for relation places without which the corresponding notion is not fully defined. It is, in fact, quite common for predicates not to be allowed grammatically to take an argument term for a position that is required semantically. In English, for example, as in many other languages, *must* expressing obligation and *may* expressing permission require semantically, or notionally, an obliging or enabling source, no matter how vague or general. Yet the grammar of English does not provide the means for expressing that relation place. If one wants to say that Harry must leave early because his wife obliges him to, there is no argument place available for the wife. This is not so in all languages. Dutch and Low German, for example, put that argument term in the grammatical mould of a preposition phrase with the preposition *van/von* ("of"), as in the Dutch sentence:[7]

(18) Ik mag van de baas vroeg weggaan
I may of the boss early away-go
"The boss has allowed me to leave early"

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[7] See Kraak (1968) for a discussion of this point.

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In a way one might say that the argument structure of deontic *must* and *may* in English is 'defective', since it does not allow for an argument term that is required semantically. Analogously, languages sometimes do not or not wholeheartedly allow for the grammatically standardized expression of datives or benefactives by means of a nominal argument place, or, typically also, for the grammatically standardized expression of an embedded object proposition by means of a subordinate clause with or without a complementizer. Such languages tend to allow for a simple nominal expression of a dative or benefactive only with one or two prototypical verbs, such as a verb meaning "give" for datives and benefactives, and a verb meaning "say" for object clauses. In such cases the speakers of the language in question, in their quest for ways of circumventing the syntactic limitations imposed by it, will tend to develop standardized circumlocutions. Serializing languages do so, in general, by means of pseudocomplementation, resulting in SVCs.

A case in point is Saramaccan, which does have a grammatically defined position for dative with many verbs but not all. Verbs of giving, paying and the like take normal datives, expressed as bare NPs before the direct object. Verbs of saying and telling, however, do not, or preferably not, take datives and take SVCs instead, constructed with the verb *da* ("give"). Benefactives, on the other hand, are always expressed by means of a serial construction with *da*. The following examples, taken from Byrne (1987:186-9), will illustrate this:

(19)a. a da/paka di womi di moni
he give/pay the man the money
"He gave/paid the man the money"

b. a da/paka di moni da di womi
he give/pay the money give the man
"He gave/paid the money for the benefit/on behalf of the man"

(20)a. Magda konda di oto da di basi
Magda tell the story to the boss
"Magda told the story to the boss"

A similar situation occurs when a language either lacks specific prepositions or has them but in free variation with SVCs (due, perhaps, to different historical sources for the language). Sranan, for example, lacks an instrumental preposition and uses TAKE serials. Saramaccan, however, does have an instrumental preposition *ku* ("with"), which also serves as the comitative "with", but still uses TAKE serials for instrumentals in what appears to be free variation (McWhorter 1990:17). One thus finds both of the following:

(21)a. a kotu di gbamba ku faka
he cut the meat with knife
"He cut the meat with a knife"

b. a tei di faka kotu di gbamba
he take the knife cut the meat
"He cut the meat with the knife"[8]

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[8] It struck me that Saramaccan examples with *ku* tend to occur in the literature with an indefinite prepositional object, as in (21a), whereas with a definite object the TAKE serial seems to be preferred, as in (21b). This would, again, parallel Akan (cp. Lord 1982:293), where GIVE serials are obligatory with definite, and optional with indefinite, objects, the latter allowing also for a "normal" dative.

Sometimes one finds that a language has a general preposition, for example for locative relations, which is then further specified by means of a SVC. The Sranan sentence (22) illustrates this. The general locative preposition *na* is further specified by both *ini* ("inside" and the serial verb *puru* ("pull"), which signals separation:

(22) a man hari a ston puru na ini a olo
the man drag the stone pull LOC in the hole
"The man pulled the stone from inside the hole" cp. Sebba (1987:122)

A lack of grammaticalized comparative constructions is likewise regularly compensated for by means of SVCs. Many languages lack a separate grammatical construction for the expression of comparative inequality (Stassen 1985). Typically then, when they have or allow for SVCs, a serial construction is used to express the comparative notion, as was demonstrated above in (1h).

In all such SVC-cases the pseudocomplement 'stands in' for what may be regarded as a missing term in the semantically defective argument structure of some predicate (verb), or it has the function fulfilled by a preposition or some grammatical category in other languages. The prototypical predicates of giving, taking, surpassing or saying are then typically thrown in as $V_s$, and thus quickly acquire some conventionalized or grammaticalized status for precisely those cases where they perform their 'stand-in' function. For example, equivalents of *give* as $V_s$ in a pseudocomplement tend to be re-analysed after some time as prepositions introducing indirect objects (McWhorter 1989). Equivalents of *say* as $V_s$ tend to become subordinating complementizers (Lord 1976), and TAKE verbs (as $V_1$) instrumentals or objects (Lord 1982). Some serializing languages (cp. Welmers 1973:376 for Yoruba and Nupe) have special forms for certain verbs that are standardly, i.e. with some degree of grammaticalization, used in SVCs.

SVCs are considered to be, syntactically at least, cases of S-complementation, treated according to the syntactic rules for S-complementation that the language in question has at its disposal.anyway. It must be stressed that they are 'loose' or supernumerary adjuncts, even in cases where they fulfill a 'stand-in' function. Thus, for example, although the semantics of *bribi* ("believe") obviously does allow for an embedded object-S, the pseudocomplement in (1l) is not *that* object-S, since what I, in that sentence, say I believe is not that I say that you stole it but, simply, that you stole it. Not until the $V_s$ *taki* ("say") is re-analysed as a complementizer can the Sranan verb *bribi* be described lexically as an object-S taking verb. Analogously for datives, benefactives, comparatives, instrumentals and the like.

At this point the question naturally presents itself of whether other types of pseudocomplement are to be found in natural languages than just the bare tenseless, negationless S-embeddings encountered so far. Given the global and historical vastness of language, any answer to this question has by necessity to be incomplete and provisional. The best provisional answer that can be given here is that only bare S-complements have been attested as sentential (clausal) pseudocomplements. That is, no cases have come to light so far of tensed clausal pseudocomplements, let alone of finite subordinate clauses functioning as pseudocomplements. One might thus feel encouraged to venture positing a language universal to the effect that *clausal pseudocomplements must be bare*.

Whether there are non-clausal but purely nominal pseudocomplements is another matter. Many languages have uses for their accusative cases that suggest a phenomenon of pseudo-object-NP. Classical

Greek, for example (Kühner & Gerth 1955:303) has ἀλγῶ τὴν κεφαλήν (lit.: I am suffering pain with regard to my head: "I've got a headache"). Later Latin has the same, derived from Greek (Kühner & Stegmann 1955:287): *doleo caput* (same meaning). Not unlike the Greek and Latin examples one finds in Swahili[9] cases like *ni-me-vunjika mguu* (lit.: I am broken with regard to my leg: "I've got a broken leg"), or *bustani ime haribika maua* (lit.: garden is destroyed with regard to flowers: "the flowers in the garden are destroyed"). Whether such cases ought to be described as forms of nominal pseudocomplementation is a question I shall leave unanswered here.

## 3. Getting closer to a definition

SVCs are thus, it seems, instances of pseudocomplementation. But, as has already been made clear, that property is, though a necessary, far from a sufficient condition for SVC status. Let us therefore continue and try to add further criteria, on the basis of the kind of data discussed, in the hope that we end up eventually with a necessary and sufficient set of conditions.

Some further criteria readily suggest themselves. First, SVCs must contain real *surface verbs*, not adjectives, adverbial particles or what not, as $V_s$. When, as (according to Welmers just quoted) in Yoruba and Nupe, certain verbs are, so to speak, reserved for SVCs, they must be shown to possess genuine verbal status on independent grounds. Without surface verbal status there are no SVCs, or at least, one does not get the kind of phenomena that struck earlier descriptive linguists as particularly serial.

Then, as has frequently been observed, SVCs *lack any overt complementizer*. Sebba, for example, writes (1987:86): "To summarise the accepted criteria then, serial verb constructions have at least the following properties: ... They contain two or more verbs without overt markers of coordination or subordination." The material selected above as being representative for the intuitive notion of SVCs clearly brings out this criterion.

It should be noted that, in the present analysis, a marker of coordination should not be expected, since all SVCs are considered to be (pseudo)*complements*, and therefore by definition subordinate to the main verb, even though SVCs expressing concomitant circumstance are sometimes best translated as a coordinated structure. The distinction drawn by Sebba (1987:109-133) between coordinate and subordinate SVCs seems to be argued for more abundantly than stringently. Our counterargument is simple. We do not need that distinction, since an analysis in terms of subordinate pseudocomplement structure seems sufficient for all cases. Therefore, we will do without coordinated serial verb constructions.

Furthermore, as has already been implied, the subject of the putative $V_s$ must have been deleted under conditions of (constant or variable) coreference with the commanding higher subject or object. We speak of *controlled subject deletion*. (The higher subject, but not the object, may, in rare cases, be copied subsequently for the $V_s$, as was shown in (6) above.) This is confirmed by cases with more than one SVC: each successive $V_s$ has its deleted subject controlled by the subject or object of its immediately preceding verb. Jumping across to an argument term of a higher V is impossible. Sebba (1987:115) gives the example:

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[9] I am grateful to Carol Myers Scotton and Stephen Adéwolé for this information.

(23) Kofi fringi a tiki fadon naki Amba
Kofi throw the stone fall hit Amba
"Kofi threw the stick down at Amba"

Sebba's, no doubt correct, comment is: "Kofi is necessarily the subject of *fringi*; *a tiki* is necessarily to be interpreted as the subject of *fadon* since it is the stick which falls rather than Kofi; and native speakers confirm that it is likewise the stick which hits Amba, so that *a tiki* is the <sub>ject of *naki*.

One often also finds a null object term with $V_s$. In Sranan, for example, SVCs occur both with and without an anaphorically pronominal object term:

(24)a. yu e teki den krosi kibri
you PRES take the clothes hide
"You hide the clothes" Sebba (1987:60)

b. Kofi naki Amba kiri en
Kofi hit Amba kill him
"Kofi struck Amba dead" Sebba (1987:92)

c. Kofi naki Amba kiri
Kofi hit Amba kill
"Kofi struck Amba dead" Sebba (1987:104)

Sebba (1987:109) wishes to analyse (24b) as a coordinated SVC, consisting of two parallel VPs under one head VP, because "informants agree that [(24c)] describes a single action, viz. Kofi striking Amba a lethal blow, whereas [(24b)] describes a series of events: Kofi struck Amba, possibly several times, killing her." However, if this observation were correct, it would be ungrammatical to say in Sranan:

(25) Kofi ben e naki Amba kiri
Kofi PAST CONT hit Amba kill
"Kofi was beating Amba to death"

since the past continuative rules out a single action (cp. (2b) above, attested in the story "Owrukuku ben kari" by the Sranan author Trefossa). (25), however, is fully grammatical. (Note that the same sentence but with *kba* ("finish", i.e. "already") instead of *kiri* is indeed ungrammatical, for aspectual reasons.) Moreover, asyndetic coordinate structures are unidiomatic in Sranan. I take it, therefore, that with sentence-internal anaphora the object term of the SVC need not be null, so that no criterion is to be distilled from null object anaphora in SVCs.[10]

A useful further criterion is that the embedded pseudocomplement is *not affected by any other cyclic rule than just that of controlled subject deletion*. However, postcyclic copying rules, as is abundantly demonstrated by the data provided above, and also, as will be shown below, extraposition for internally embedded Ss, must be allowed for. This criterion is obviously theory-dependent, but perhaps less so than might appear at first sight. Barring copying rules, which are, on the whole, easily recognizable, this criterion means that an embedded pseudocomplement-S, if it is to qualify as a serial construction, must occupy the position normally reserved for objects, or else, if that position is internal, for extraposed object-Ss. The pseudocomplement-S must, moreover, appear intact in surface structure, apart from a deleted or copied subject. This rules out, for example, the Dutch sentence (15b) as a case of serialization, since there, as has been said, the verb of the pseudocomplement has been clustered with the main verb by the rule of Predicate Raising, so that the embedded pseudocomplement-S does not survive intact in surface structure. It also, and for the same reason, rules out Sebba's example:

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[10] A possibility to be considered is that *kiri* in (24c) and (25) is a passive verb "be killed" (Sranan has a limited range of passives, which are, as in all Creole languages that have a passive, morphologically unmarked). The SVC *kiri* would then have object-controlled subject deletion. Sebba quotes (1987:103):

(i) Den ben e tyari srafu gwe makti
they PAST CONT carry slaves go-away be tamed
"They took slaves away to be broken in"

where *makti* is clearly passive.

(26) Kofi naki kiri Amba
Kofi hit kill Amba
"Kofi struck Amba dead" Sebba (1987:93)

Lastly, SVCs must be *bare S-complements*. That is, the embedded S-structure contains just a lexical verb and its argument terms (the subject term deletable and controlled by a higher subject or object term), without any higher operators such as negation, tense, quantifiers, modalities and the like.

The criteria that have been provided so far seem to get us pretty close to a proper delimitation of SVC phenomena. They clearly weed out a number of cases that have been taken for SVCs but where the embedded S is simply an ordinary object-S and no pseudocomplement. For example, Bickerton (1989:165-6) presents the following Seychellois Creole sentences as cases of serialization:

(27)a. Mõ dir per vini
I tell priest come
"I told the priest to come"

b. i ti dir mwã vin ed li netway lakaz
he PAST tell me come help him clean house
"He told me to come and help him clean the house"

It will be clear, however, that (27a) is a case of normal object-complementation: Seychellois *dir*, like English *tell*, takes a semantically genuine object-S. The same applies to $_{VP}$[*vin ed li*] and $_{VP}$[*netway lakaz*]: both represent clearly genuine object-clauses to, respectively, *dir* ("tell") and *ed<e>* ("help"). Only the verb *ed* ("help") represents a pseudocomplement. It is, however, clustered with *vin* into one V-node, by the rule of Predicate Raising, as appears from the dropping of the final vowel *-e*,[11] and can therefore not be a serial verb.[12]

Sebba (1987:55-6) discusses:

(28) Kofi meki a / en go na wowoyo
Kofi make he / him go LOC market
"Kofi made him go to the market"

and correctly identifies *go* as the verb of a genuine object-S,[13] and thus not of a serial construction. He suggests (1987:80-1) that, at least for some speakers, *meki* is not a serial verb in other constructions, such as (29a,b), but has been re-analysed as a conjunction meaning "so that", criticizing Voorhoeve (1975), who takes them to be instances of serialization:

(29)a. alen fadon meki den prani gro
rain fall make the plants grow
"Rain falls so that the crops grow" Sebba (1987:56)

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[11] See Seuren (1990) for a detailed analysis of Predicate Raising and Subject Raising constructions in Mauritian Creole, which is virtually identical with Seychellois Creole.

[12] See also Seuren (to appear b) for a discussion of these cases.

[13] Interestingly, the semantic subject of *go* occurs both as an uninflected, i.e. nominative pronoun (*a*), and as an inflected accusative pronoun (*en*).

b. Kofi dray a plat meki yu yere
Kofi turn the record make you hear
"Kofi played the record for you to hear" Sebba (1987:79)

His argument is based on the sentences (30a,b), which he constructed for the purpose:

(30)a. Kwaku no e naki Mary meki a siki
Kwaku not PRES hit Mary make her sick

b. Kwaku no e naki Mary meki a breyti
Kwaku not PRES hit Mary make her happy

If, he says, *meki* is a serial verb, the sentences must mean, respectively, "Kwaku is not [hitting Mary and making her sick/happy]". But if *meki* is a conjunction the scope of the negation can be altered so that the sentences can then mean "Kwaku is not hitting Mary, — so that she is sick/happy". In either case one of the readings will be pragmatically implausible, and he then asked his two informants whether the sentence with *siki* or the one with *breyti* was more plausible. Not surprisingly, he failed to get a coherent result. It is a matter of experience that shooting artificial sentences at informants in a situation where they have to reflect and report on their own language (activities not favored by most informants) more often than not yields poor results or no results at all. In this case subtle distinctions of logical scope are involved, in connection, most probably, with intonational distinctions, making the enterprise even more hazardous than it normally is. Although one cannot rule out the possibility that *meki* has been re-analysed, for some speakers, as a conjunction, better methods are required to establish whether this is so. In any case, *meki* is in no way unique, in this respect, since re-analysis has been reported widely for other common serial verbs, as has been noted above. We shall, therefore, treat *meki* on a par with the other cases of possible re-analysis, and proceed on the assumption that *meki* in (29a,b) is indeed used as a serial verb, as long as no evidence to the contrary comes to light.

We are, however, not quite there yet. We have no criterion yet to exclude, in particular, verbal constructions with a verb meaning "go" as $V_1$, followed by an embedded bare S-complement with subject-deletion and no other cyclic rule, as in (11) above. Such constructions are rife in a vast number of languages that are otherwise under no suspicion of allowing for serial verbs. English has, besides sentences like (11), also imperatives of the form *go get your book*. French has, for example, *elle est allée boire* ("she has gone drinking"), and Italian likewise: *è andata bere*. Further examples can be given at will. Such cases must be ruled out, or else, it is felt, we miss out on what SVCs really are and all sorts of languages that are clearly not of the serializing type must then be thought to have SVCs.

One may, of course, be liberal and say that English, French, Italian and all those other languages have just the GO class of SVC but not the many other typical SVC classes found in what we call the serializing languages and which make us call them that. Maybe so, yet there is a further point that deserves attention anyway and which we do not want to miss out on. The point is that where we hit upon what we wish to consider SVCs these *SVCs are not lexically governed by the higher $V_1$*. That is, the higher V is not subcategorized for taking pseudocomplements. SVCs occur to a large extent freely as "loose" adjuncts to higher Ss, restricted by general considerations of semantic and/or pragmatic appropriateness, and perhaps also by other factors, but not by lexical argument structure. This is not so for the GO constructions just mentioned. The kind of S-complementation found with *go* is not allowed

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with most other verbs of going: ***he walked fishing* is clearly ungrammatical. Analogously for the pseudocomplementation phenomena with other verbs in Dutch, as illustrated in (15b), for example. Here it is the higher V that enables pseudocomplementation. In genuine serializing languages SVCs are never governed that way by their higher V. There, more often than not, the class of verbs that can occur as $V_s$ is restricted, not the class of verbs that can occur as $V_1$. It is, therefore, necessary to have a wider look at the subcategorization facts of the language in question before one can decide for some isolated example whether it is a SVC or not.

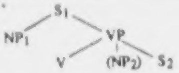
Even so, however, as has been observed by virtually all concerned, SVCs tend to gravitate towards certain stereotypes: there is, as has been shown, the typical DATIVE and/or BENEFACTIVE class, the CAUSATIVE class, the MOVE class, the PURPOSIVE class, the COMPARATIVE class, the THAT-class, and a few others, where the serial verb expresses the notions involved. Very typical is also the TAKE class as exemplified in (1a,b), (3c), (4b,c), (5d) and (21b). This differs, at least in the examples quoted, from the others just mentioned in that here the verb expressing the notion of taking is $V_1$, not $V_s$. Here, too, the SVC is a "loose" adjunct, but the fact that it occurs with a higher V meaning "take" is, though somehow stereotypical, clearly not a result of the lexical argument structure of the "take" verb. Whether the TAKE verb is also $V_1$, and thus not $V_s$, in cases like (8) and (9c), which have the basic SOV order, will be discussed in section 4.

In general, our tentative conclusion is that SVCs are typically characterized by the fact that they are forms of ungoverned pseudocomplementation of bare Ss, without any complementizer, with their subject deleted under conditions of higher subject or higher object control without any further cyclic rule being operative, and manifesting themselves as VPs with a real V in surface structure. They, moreover, come in typical categories of use (whose distribution over the various serializing languages or language families is, however, still relatively unclear). The phenomenon of serialization is thus seen to be a *syndrome* of features and phenomena found in many if not all languages of the world and whose typical combination gives rise to the typicality that made earlier linguists distinguish a separate category of SVCs. If this analysis is correct, it takes the bottom out of any theory, such as Bickerton's (1981) "Bioprogram theory", that interprets SVCs as an element in its own right in "Universal Grammar" underlying the grammars of all natural languages. Under the analysis presented here there is no separate universal category of "serial verb construction", just a syndrome of a number of other factors that are likely to be, one way or another, language-universal. This syndrome has certain stereotypical features which, being features of a syndrome, cannot themselves be elements in "Universal Grammar". What might explain these stereotypical features is still largely unclear, a state of affairs to be expected given the low level of our knowledge of questions regarding the functionality versus the modularity of putative linguistic universals. In any case, whichever way the balance goes between functionality and modularity, the stereotypical features of SVCs in the languages of the world will in all likelihood be explained as by-products ("epiphenomena") of whatever their functional or modular basis will turn out to be.

### 4. SVCs in VSO and SOV languages

As has been said, the vast majority of serializing languages have basic SVO order, i.e. the basic structure of their sentences is NP-VP. Here the derivation of SVCs is simple. If one takes the NP-VP structure to be also the syntactically underlying structure, SVCs originate from an embedded pseudocomplement-S, as is demonstrated in (31), where $S_2$ is the pseudocomplement.

(31)



The subject of $S_2$ undergoes deletion under control by the higher subject $NP_1$ or, if it's there, the higher object $NP_2$. All that has to be assumed is that an S that loses its subject is demoted to VP-status, so that $S_2$ becomes VP after the deletion of its subject. Different theories may account for such facts differently, but the net result will be the same. In my theory of Semantic Syntax, for example, the underlying constituent order for NP-VP languages is not NP-VP but VSO (essentially as proposed in McCawley (1970)). A separate routine, induced by the finite tense operator, changes this into NP-VP (see, e.g. Seuren 1985:128-30). However, whether one prefers this or the underlying NP-VP theory (in whatever variety), the pseudocomplement-S is always attached to the far right, after any genuine object arguments of the main verb.

How does this work for languages with different basic word order patterns, in particular SOV and VSO languages?[14] The examples (8) and (9a-c) provided above, taken from Schiller (1990b) and McWhorter (1990) give an idea of what putative SVCs look like in SOV languages. We shall repeat them here, with another example from Ijo added:

(8) erí edein bí àkụ bó mi
he knife the take come PAST
"He brought the knife" Ijo (McWhorter 1990:8)

(32) erí opúru-mo àkị tọbọú pịrị-mi
he crayfish take boy give PAST
"He gave a crayfish to the boy" Ijo (McWhorter 1990:8)

(9)c. fu bureda ije sime abe ufu
3sg bread the knife take cut
"He cuts the bread with a knife" Barai (Schiller 1990b:7)

In attempting to analyse these sentences we must realize, to begin with, that we are trivially hampered by an elementary lack of knowledge of the languages concerned. All we can do in cases of the sort is look carefully at the sentences in question and propose an analysis that seems reasonable in the light of both the available facts and the available theory. With this enormous proviso we may perhaps venture the following.

The first thing to be noticed is that the Barai sentence (9c) differs structurally from the two Ijo sentences. The Barai sentence seems to show fairly unequivocally that the sequence corresponding to [knife - take] is embedded in the matrix structure [he - bread-the [knife - take] - cut]. This means that, other than in typical TAKE serials, the TAKE verb is the $V_s$, and not the main verb $V_1$. It does not seem

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[14] Data on the relatively few languages with other basic word order patterns are so scarce and, often, unreliable, that there is little point in discussing them in this context. See also Schiller (1990b).

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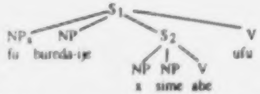
possible, or at any rate highly contrived, to analyse the sentence in such a way that the TAKE verb is the main verb and *ufu* ("cut") the serial verb (as in most of the cases quoted above), since then the SVC would have been cut up into two discontinuous parts, which strikes one as improbable. The simplest analysis is now to let (9c) correspond to an underlying structure as in (33), where $S_2$ is the pseudocomplement acting as a SVC. (Any tense operator is assumed to take scope over $S_1$ and thus to command $S_1$.)

(33)



The deletion of the lower subject NP[x] under control by the higher subject now turns $S_2$ into an embedded VP, and, barring any tense processing (which does not seem to have any overt effect in this case), sentence (9c) results.

The semantics of the Ijo sentence (32) makes it clear that the main verb must be *dáu* ("take"). We thus have here a GIVE serial construction. It follows that *piri-mi* ("gave") is the $V_s$, even though it carries the PAST tense (a case of 'overshooting'). In the absence of further data it is hard to say whether the position occupied by the SVC corresponding to [boy - give-PAST] in the surface structure of (32) is the 'original' syntactic position normally assigned to embedded object clauses or the result of extraposition from an 'original' internal position before or after *opúru-mo* ("crayfish"). In any case, with or without extraposition, the analysis of SVCs as given above seems to apply without too many complications.

By analogy we say that in the other Ijo sentence (8) *dáu* ("take") is the main verb and *bó-mi* ("came") the serial verb, carrying the tense marker as a result of 'overshooting'. If this is correct, (8) is not an instance of the class of TAKE serials but of the class of GO (COME) serials. This again would suggest, given observed regular patterns in GO serials, that subject deletion in the SVC of (8) is object-controlled so that the knife is said to come hither. Clearly, such conclusions must be tested against further material. So far, however, nothing indicates that the overall analysis provided here of SVCs should not effortlessly apply to these cases.

Interestingly, the Yi sentence (9a) and the Lahu sentence (9b), both repeated here, differ in their treatment of their SVCs in that the former extraposes the pseudocomplement-S, whereas the latter does not. In both cases the subject of the SVC is deleted under higher object control:

(9)a. ŋa ʝɛ b'ɛ t'ɤ sɯ tsɤ kɯ
my mother clothes put trunk inside-be at
"My mother put the clothes in the trunk" Yi (Schiller 1990b:8)

b. ŋà ɔ-e vàʔ-qâ thàʔ ɯ-qo ɔ-qho ka ta ve yò
my mother clothes OBJ box inside put PT PT PT
"My mother put the clothes in the trunk" Lahu (Schiller 1990b:8)

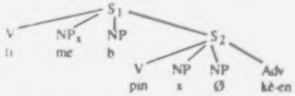
Finally, let us consider the sentences (10a,b) (repeated here for convenience), from Ravüa, the only VSO language spotted so far that may qualify as a serializing language.

(10)a ti me ho taw lik me pin kè-en
take you go send letter you accompany to-here
"Go, take the letter and come back" Ravua (Schiller 1990:5)

b ti me b pin kè-en
take you it accompany to-here
"Bring it here" Ravua (Drage 1907:61)

If it is assumed that Ravua is indeed a serializing language, which clearly is the more interesting and challenging assumption, then, at first sight, sentence (10b) poses no problems. It looks as if it can be derived simply from an underlying VSO structure, with the SVC added as a supernumerary object-S:

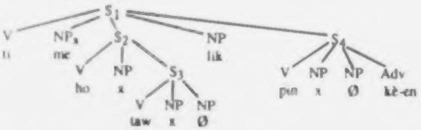
(34)



After deletion of the lower subject $_{NP}[x]$, controlled by the higher subject *me*, and with a zero anaphoric lower object, the sentence is there.

(10a), however, is less simple. It looks, in terms of the present analysis, as if it contains two parallel SVCs, one corresponding to [go - send], containing "send" again as an embedded serial verb under "go", and one corresponding to [accompany - to-here]. Whereas in (10b) the higher object ("it") precedes the only SVC there is, here the higher object ("letter") follows the first SVC [go - send] and precedes the second [accompany - to-here]. Given our total lack of knowledge of the ways constituents may be shifted about by, presumably late, rules in Ravua, it is difficult to put forward a reasonable explanation of these facts. But let us make the simplest possible assumption, given the few facts at our disposal, and say that in the event of more than one SVC a genuine nominal object-NP will stand between the two. Under this assumption, the underlying structure of (10a) will be something like (35), with $S_2$ and $S_4$ as the two parallel embedded pseudocomplement-Ss:

(35)



If the same procedures as were assumed for (10b) are applied here, sentence (10a) results but without the second occurrence of *me* ("you"). Clearly, if that second occurrence of the main subject is to be accounted for some (late) copying rule must be assumed that will repeat the main subject before the second SVC. This rule may perhaps be thought to be reinforced by the fact that the subject deletion in $S_4$ is controlled by the higher subject *me*, and not by the higher object *lik*. Without the copying of *me* there might be a risk of *lik* controlling the subject deletion in $S_4$.

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This concludes our discussion of the status and definition of serial verb constructions. It seems that, on the basis of the limited evidence available, certain general principles are beginning to delineate themselves. The central notion is that of surface verbs without an overt complementizer in bare pseudocomplementation, often 'standing in' for defective lexical argument structure or fulfilling certain standard semantic functions for which the grammar of the language has not so far developed standardized categories, combined with the criterion that no cyclic rules of complementation have been applied other than controlled subject deletion. On top of this, certain stereotypical categories of use have been recognized by most authors on the subject. All this together makes for a typical syndrome in natural language, which has received the name of serial verb constructions.

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# On the Definition and Distribution of Serial Verb Constructions

Eric Schiller
Wayne State University & The University of Chicago

## 1. Introduction[1]

The term 'Serial Verb Construction' has been applied to a wide range of phenomena, in the literature and even (or perhaps especially) at this conference. In this paper I hope to clarify some definitional points concerning serial verb constructions and in addition provide some explanation of the distribution of serial verb constructions in the languages of the world. To go into the depth necessary to fully explicate the points I wish to make is not possible in a brief paper, and interested readers may wish to consult my dissertation (Schiller 1990d) and related papers (Schiller 1989c, 1990a, 1990b). I have made a few changes in my analysis since the conference, thanks to insightful presentations by Geoff Pullum and Pieter Seuren (this volume), who deserve more than mere footnoted acknowledgement.

The first part of the paper will be concerned with the definition of serial verb constructions, or, properly, serial verb phrase constructions. This will include an overview of more than 20 years of work on the question, which might profitably be presented in a volume of papers devoted to serial verbs. The presentation and discussion of these proposals will necessarily be brief. I will conclude by adding my own definition to the heap. Next, I will turn to the distribution of serial verb constructions in the languages of the world, presenting the factors which give rise to such constructions. The paper employs the framework of Autolexical Syntax as developed by Jerrold M. Sadock (1985, 1988 to appear), with a few amendments (Schiller 1989d, 1990b).

## 2. Defining Serial Verb Constructions

Coordinate serial verb constructions which lack a surface conjunction are largely excluded from consideration here. Deictic serials, unjustly neglected to date, despite a few papers cited in Pullum (1990), are those which combine a deictic verb, usually meaning 'come' or 'go', with a verb phrase. These are, in fact, the most frequently encountered serial structure, being present in many languages which otherwise lack serials (see Schiller 1990d: Chapter 3.). Sebba (1987) convincingly distinguishes Subordinating Serial Verb Constructions from Coördinating Serial Verb Constructions, the former showing the following characteristics.

1)

> i. "Although two or more verbs are present, the sentence is interpreted as referring to a single action rather than a series of related actions. Although the action may involve several different motions there is no possibility of a temporal break between these and they cannot be performed, for example, with different purposes in mind..."
> ii. "There is a strict ordering relationship between the verbs..."
> iii. "Furthermore, the first verb in a series may subcategorize for a particular verb or class of verbs..."
> iv. "In some cases, each transitive verb in the series has its own object..."

Filbeck (1975) was a little more specific in his definition of serial verb constructions:

2)

> "The initial verb, or $V_1$, of a series is propositional, i.e. this is the verb that carries the true predicate meaning of the proposition; any subsequent verb, or $V_{1+n}$, states a functional meaning which is related to the predicate or propositional meaning of the initial verb."

Jansen, Koopman & Muysken (1977) suggested the following "Rough working definition".

3) "Serial verb constructions are constructions which:
(a) contain only one overt subject, and more than one verb;
(b) contain no overt conjunctions or complementizers;
A further characteristic of serial constructions is that:
(c) if one of the verbs in the construction serves as an auxiliary or a modal auxiliary to another verb, it is not a serial verb construction;
(d) if one verb serves as an infinitive complement to another verb, it is not a case of serialization;
(e) often there is in the construction one "lexical verb", selected from a large class, and one or more "grammatical" verbs, selected from a very limited, closed class. ...
(f) the configuation V NP V NP is indicative of serialization;'
(g) in the configuration $V_1$ $V_2$ ... $V_{n-1}$ $V_n$, only $V_1$ can be the "lexical" verb in serial constructions, and only vn in infinitival complements or constructions with modal auxiliaries."

Of these criteria some are appropriate (b,c,e,f), some requre a clear definition of a finite/non-finite distinction which has not been clearly proven for isolating languages (d,g), and one (a) requires a definition of what it means to be a subject which is not supplied in the work cited.

Bradshaw (1982) provided a definition which involves semantic, intonational, syntactic and morphological criteria:

4) (i) All verbs in the serial contruction refer to subparts of a single overall event.
(ii) There is no intonational or grammatical marking of clause boundaries between the verbs.
(iii) There are tight restrictions on the nominal arguments associated with each verb.
(iv) There is no contrast in the basic inflectional categories of serialised verbs.

There is nothing wrong (in principle) with a multi-modular definition of verb serialization, but this definition is lacking both in formality and accuracy. The first two points are uncontroversial and accurate. The third point does not hold for all serial constructions, and it is not clear what types of restictions could be developed to account for all of the data found in the variety of languages examined in the present work. It is certainly true that some serial constructions have restrictions on nominal arguments, this is less clear in, for example, directional and instrumental constructions[2].

The fourth consideration is whether a concise definition should include both inflectional marking and the "Same Subject Constraint" which will be discussed below. There is one piece of data from Sakao (discussed below) which even contradicts the demand that inflectional categories of serialized verbs must not be different, so I will propose that only tense/aspect marking be so constrained. I find grounds for rejecting the latter constraint on a number of grounds, presented below.

The most recent definition of serial verbs is that proposed in Seuren (1990):

> "In summarizing, we can say that verb serialisation is the result of ungoverned pseudocomplementation with the following other conditions:
> a) The pseudocomplement is lexically bare in the sense that it cannot be within the exclusive scope of a tense or negation operator.
> b) The complement-predicate is a surface verb.
> c) No syntactic processing takes place other than simple SSD[3], with the result that a serial verb construction manifests itself as a VP with (subject- or object-) governed deletion of the subject.

d) It is added to a sentence which would be well-formed without the serial verb construction."

Seuren defines pseudocomplementation as follows: "A pseudocomplement is a suppositious sentential complement, foisted on a verb whose meaning requires no such complementation, and expressing concomitant circumstance, purpose, or result.". In a governed pseudocomplement, "The possibility of taking a pseudocomplement is lexically defined, in the language in question, for each verb that can take a pseudocomplement. The pseudocomplement then represents a possible extyra argument term for the verb in question."[4]

Seuren's (a-d) seem to be acceptable components of a definition of subordinating serial V̄ construction, but his definition of "pseudocomplement" is not easily applied and tested.

We now turn to the question of which of the many criteria cited above should be rejected, and which should be retained.

### 2.1. Some Tests that Fail

Many authors in the past two decades, including Foley and Olsen (1985) continue to assume a "Same Subject Constraint" whereby the subject of each of the serial verbs in the sentence must be the same. This constraint should not be applied. First of all, often an explicit subject of the lower clause is also ungrammatical if the intonation contour of a single sentence is maintained, as in (5a and 5b), and second, an indefinite non-coreferent subject is also possible, as in the Khmer example (6a). In that example, there is an understood indefinite subject of the verb 'to hear', but one cannot insert the indefinite pronoun as in (6b), unless one makes an exaggerated pause after /hou/ and creates a topicalized sentence.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 5) | a. | *sùk | ?aw | mây | titima | maa | | | | (Thai) |
| | | Sook | take | wood | Titima | come | | | | |
| | b. | *sùk | ?aw | mây | sùk | maa | | | | |
| | | Sook | take | wood | Sook | come | | | | |
| 6) | a. | tɯk | crĕăh | hou | lɯɯ | sou | khlaŋ | naḥ | | (Khmer) |
| | | water | fall | flow | hear | noise | strong | very | | |
| | | 'The waterfall flows making a very loud noise.' | | | | | | | | |
| | b. | *tɯk | crĕăh | hou | kee | lɯɯ | sou | khlaŋ | naḥ | |
| | | water | fall | flow | prn. | hear | noise | strong | very | |
| | | 'The waterfall flows making a very loud noise.' | | | | | | | | |

The examples above may be classified as Ambient Serialization, a term borrowed from Crowley (1987), who gives the following example:

| | | | | | |
|---|---|---|---|---|---|
| 7) | Kihulin | ato | kali | hemal | (Paamese) |
| | (ki-hulii-nV | atoo | kalie | he-malu) | |
| | 2sg-dis-count-comm/obj | chicken | pl | 3sg-dis-be correct | |
| | 'Count the chickens correctly.' | | | | |

Crowley notes that:

> "In this example, it is neither the subject of the first verb, i.e. the second person singular pronoun, nor the object of the first verb, i.e. *atoo kalie* 'the chickens' that is marked on the second verb. Rather, the second verb refers simply to the general act of counting, with no particular participants in mind."

In (8) we see that the shared NP can be either subject or object, depending on the presence of the infix *-r(i)-* which codes what Durie (1988) calls 'moving-Undergoer-sharing'[5].

| | | | | |
|---|---|---|---|---|
| 8) | a. | me-ke | r-lam | (Sakao) |
| | | 3sg-take | ri-come | |
| | | He handed it hither. (He took it and it came.) | | |

b. me-ke-lam
3sg-take-come
He brought it. (He took it and he came.)

Next, there is the curious case of Yankuntjatjara (Goodard 1988), an Australian language which has a pair of serial constructions, which differ in interpretation with regard to the subject, where the different subject reading is (literally) unmarked while the same subject interpretation requires an explicit marker:

9) a. Ngayulu patangara-ngu waru-ku yanku-nytja-la
IsgNOM fall-PAST firewood-PURP go-NOML-LOC
I fell while someone else was going for firewood.
* I fell while I was going for firewood.

*b. Ngayulu patangara-ngu ngayulu waru-ku yanku-nytja-la
IsgNOM fall-PAST IsgNOM firewood-PURP go-NOML-LOC
I fell while going for firewood

c. Ngayulu waru-ku yanku–la patangara-ngu
IsgNOM firewood-PURP go-SERIAL fall-PAST
I fell while I was going for firewood.

Goddard (1988) suggests that (9a), known as the circumstantial construction, arose and grammaticalized the different-subject condition because it was able to exploit an opposition with the serial verb construction (9c.) H The relevance of this example lies in the problems posed for definitions of Serial Verb Constructions. If in some languages, some serial constructions are explicitly marked, and others are unmarked, and there is a significant property which is not shared, (same/different subject marking in the present case), then it will be hard to generalize about properties of serial verb constructions as a whole. In the present case we are not dealing with constructions which meet definitions of serialization applied here, as from a syntactic standpoint we are dealing with nominal rather than verbal material in the lower clauses of (9a) and (9b). Only (9c) fits the pattern of serialization, yet it is precisely this construction which violates the same-subject condition.

There is a clear exception to the same-subject constraint in serialized directional complements:

10) Kofi hari a ston go na ini a olo (Sranan)
Kofi pull the stone go LOC in the hole
'Kofi pull the stone into the hole'

Here the subject of the verb pull is not the subject of the verb go on anyone's account. One might therefore conclude that serial verb constructions involve either a shared subject or a shared object, as suggested by Seuren. But even here there is a problem. Consider the following example from Yoruba.

11) Olu lé omo náà wá ile (Yoruba)
Olu drove child the [come] home
'Olu drove the child home.'
'Olu drove the child and they came home.'

How does one account for the two different interpretations of this sentence? Assume that despite the conjunction in the second gloss, that the sentences are the same syntactically. The fact remains that the subject of the lower clause can be either the object of the higher clause or both the subject and the object of the higher clause. Furthermore, a question arises as to the interpretation of the deictic term home. Does it refer to the home of the child or the home of Olu? From the English glosses one might well conclude that that in the first case the action was directed to the home of the child, but in the latter, that the action was directed to the home of Olu, though, if they were related, the referent might be the same.

Awoyale (1987:22) proposed two principles which also run into difficulty with emirical facts:

12) Avoid Tautology principle: No verb can serialize itself or its synonyms.

The point he is trying to make is that one does not find identical lexical items in the serial string, but Khmer offers clear counterexamples:

13) a. yəəŋ kɯt thaa tau psaa tau
we think say go market go
'We think we'll just go to the market.'
b. kŏăt ʔaoy khñom kcəy luy ʔaoy ʔəwpuk
prn. give me borrow money give father
'He let me borrow money for my father.'

There are a number of possible treatments for the prolific final tau which will not be discussed here. It doesn't really matter whether it is a subordinating or coordinating serial verb - it still violates the Avoid Tautology principle. The examples with ʔaoy are just as prolific.

Awoyale (1987:24) also proposes another condition:

14) Collocation Condition: Every verb in a series must satisfy its local collocational requirements at all syntactic levels.

He points out that this is not the same as the Projection Principle (Chomsky 1981). He claims that"one verb in a serial construction does not contain another verb in its lexical entry, so the lexicon cannot account for collocation restrictions." It is true that the Projection Principle says nothing about collocations directly, but if collocational information is not contained in the lexicon, then where is it to be located? In any event, it seems that what he terms collocational material is simply a semantic feature of a lexical item, that , for example, a certain verb allows a resultative complement (Awoyale's preferred example 1987:22) is not peculiar to serializing languages. The same restriction holds in English, where many resultatives are appropriate only when combined with an appropriate matrix verb:

15) Maggie wiped the counter dry. (English)
*Maggie wiped the counter dirty.

## 2.2. Coordinating Serial Verb Constructions

It has already been noted that serial structures of a coordinate type differ from those of a subordinatye type. Syntactically, Coordinating Serial Verb Constructions can be described as coordinate structures with null conjunctions. This analysis is supported by the fact that explicit conjunctions can often be inserted, as in (16).

16) a ịku sụugã n wãg nemdã (Mooré; Peterson 1971)
he took knife CM cut meat
'He cut the meat with a knife.'
Here CM is a marker of conjunction.

Semantically, all that needs to be explained is how the main verb of the lower clause identifies the subject of the higher clause as its own subject. This, however, is garden-variety conjunction and the explanation will be the same as that employed in any other case, such as "He drank the martini and ate the olive".

There are differences between simple coordination and coordinate serial constructions. From a semantic viewpoint, one difference was pointed out in Sebba (1987:150 ). "In sentence coordination, the interpretation given to the whole sentence is the same as that which would be given to the two conjuncts each taken separately." From a syntactic viewpoint, the most important difference is the availability of conjunctions, as mentioned above. These differences can be shown in the following examples, where (17.a) and (18.b) are straightforward coordination and the primed examples are serialized constructions.

17) a. Osinaa doroba no na opamm tam no (Akan)
he-thread-PAST needle the and he-sew-PAST cloth the
a'. Osinaa doroba no pamm tam no
'S/he threaded the needle and sewed the cloth'
b. Osina doroba no na ampamm tam no
he-thread-PAST needle the and he-NEG-sew cloth the
b'. *Osina doroba no mpamm tam no
'He threaded the needle and didn't sew the cloth'

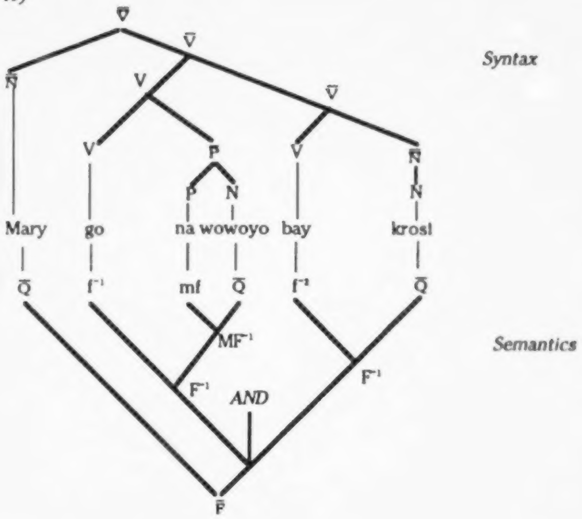
In the positive examples (17.a) the conjunction can be either present or absent, but in the negative examples (17.b) the conjunction is obligatory, and the purely serialized form with negation in the lower clause is ruled out. Sebba gives further evidence involving adverbs, and argues that the serialized forms are examples of $\bar{V}$ coordination rather than sentential coordination. This analysis seems to be correct.

Strong additional support for the difference between coordinating and subordinating serial verb phrase constructions is provided by extraction phenomena. Sebba (1987:100ff) shows that the coordinate structures (e.g. 18.a) do not allow the sort of extraction prohibited by the Coordinate Construction Constraint (Ross 1967), while subordinate structures (18.b) do.

18) a. Mary go na wowoyo bay krosi
Mary go LOC market buy clothes
'Mary went to market and bought clothes.'
a'. *Soortukrosi Mary go na wowoyo bay Ø?
What (sort of) clothes did Mary go to market and buy?
b. Kofi teki a nefi koti a brede
Kofi take the knife cut the bread
'Kofi took the knife and cut the bread = Kofi cut the bread with a knife.'
b'. San Kofi teki a nefi koti
What Kofi take the knife cut Ø?
'What did Kofi cut with the knife?'

Though Autolexical accounts of coordination have not yet been developed, it seems reasonable to follow Sebba's line and treat Coordinating Serial Verb Constructions as coordinated $\bar{V}$'s in the syntax. In the semantics it remains an open question whether the coordination applies to $\bar{F}^{-1}$ or $\bar{F}$, i.e. to one-place predicates or full propositions, but this question lies outside the scope of the present work. One might represent the coordinating serial construction (18.a) as in (19):

19)



### 2.3. Deictic Serialization

This type of serial constructions involves a deictic verb followed by a verb phrase. It exists even in English, and can be found in many languages which do not otherwise show evidence of serial verb constructions, such as Arabic (Hussein: this volume). I will leave discussion of these to Geoff Pullum (this volume) and Dai (this volume), but add a few more examples in (20).

20) a. tau yɔɔk kɑsaɛt mɔɔk (Khmer)
go take newspaper come
'Go get the newspaper.'

b. Di kabudu go pe foh de kill uman dehn, pikin dehn (Krio)
The gang go pay for they kill woman DEM-pl children DEM-pl
'This gang pays for the killing of women and children.'[6]

c. Anda ola kantu akel siñu ten taju. (Malayo-Portugese Cr.)
go see if that gentleman is home
'Go and see if that gentleman is at home.'

d. Viens prendre ta lettre (French)
come take your letter
'Come take your letter.'

## 2.4 Serialization, Concatenation, and Complementation

In the literature the term *serial* has been applied to many types of structures, only some of which meet the defining criteria proposed above. Here some of the other constructions which have been, or might be called serial verb constructions will be briefly considered.

*i.* V+ V structures in work on Tibeto-Burman languages (Matisoff, 1973).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 21) | ŋà-hɨ | ga | qɔ̀ʔ | chi | tɔ̂ʔ | pi | ve | (Lahu) |
| | we | had-to | again | lift | out | for | $P_{univ(affirmation)}$ | |
| | | $V_v$ | $V_v$ | $V_h$ | $V_v$ | $V_v$ | | |

'We had to lift (it) out again for (them).'

In the example, chi is the head verb, according to Matisoff's analysis, with two "versatile verbs" on either side of it. I will refer to these structures, which involve the concatenation of simple verbs, as Verb Concatenation Structures, represented by V*. I will assume a structural representation of the syntax, in which the verbs are conjoined under a V-node. These structures can be analyzed either as coordinate structures or incorporation structures. The latter seems more appropriate, since in the case of those languages which have inflectional devices, inflection is marked only on the heads of compound verbs, e.g.

| | | | | | |
|---|---|---|---|---|---|
| 22) | Tōs | onak | lah | pil | (Paamese) |
| | (toose | ona-ku | lahi | pilu) | |
| | torch | poss-1sg | 3sg-real-carry | stick together | |

'My torch shines with a narrow beam.'

*ii.* V+$\bar{V}$ structures in work on Dravidian languages (Steever1988, Fedson, 1981, Nagarajan 1990), and sometimes in work on Vietnamese and Khmer (Mikami, 1981).

| | | | | | |
|---|---|---|---|---|---|
| 23) | ēn | jōx | man-d-an | ciʔ-d-an | (Kuṛux) |
| | I-nom | servant | be-pres-1s | do-temporarily-pres-1sg | |

'I am becoming a servant temporarily.'

From a purely syntactic point of view, the structure of this type of sentence is that of auxiliary verb + $\bar{V}$ complement. I will accordingly adopt the term Auxiliary Structure to describe this form of serial structure, sometimes employing the abbreviation [V+$\bar{V}$*].

*iii.* $\bar{V}$+$\bar{V}$ subordinating serial verb structures in work on Creole and Mainland Southeast Asian languages (Li 1973, Filbeck 1975, Bamgbose 1986, Sebba 1987, Baker, 1989, Seuren 1990).

| | | | | | |
|---|---|---|---|---|---|
| 24) | Kofi | naki | Amba | kiri | (Sranan) |
| | Kofi | hit | Amba | kill | |

'Kofi struck Amba dead.'

This is the typical serial verb construction which is the subject of inverstigation in the present study. These will be designated Serial $\bar{V}$ Constructions and will be abbreviated [$\bar{V}$*]. The phrase structure of these constructions will be discussed below.

*iv.* Finite $\bar{V}$+ Finite $\bar{V}$ structures in work on Saramaccan Creole (Byrne, 1987, 1990).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 25) a. | a | bi | fèfi | di | wòsu | kabà | (Saramaccan) | |
| | he | TNS | paint | the | house | finish | | |

'He had painted the house already.'

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| b. | a | fèfi | di | wòsu bi | kabà | | |
| c. | a | bi | fèfi | di | wòsu | bi | kabà |

This is a very rare type *of serial structure, found only* in Saramaccan, Cape Verde Kriolu and Guinea Bissau Creole[7]. Here it seems that not just a verb phrase is serialized, but a larger constituent consisting of a verb phrase plus tense/aspect and negation markers. Both the data and analysis remain controversial, but accepting the analysis in Byrne (1987), we will indicate these as Finite $\bar{V}^*$, using the term Finite Serial $\bar{V}$ Structure to describe them.

It will later prove convenient to distinguish concatenation from the other types of structures. The term Phrasal Serialization will be used for all serial forms which involve $\bar{V}$ constituents.

### 2.5. Structural Properties of Subordinating Serial $\bar{V}$ Constructions

We have already examined some definitional criteria and tests which have failed to properly characterize or distinguish subordinating serial verb constructions. Now let us turn to two conditions which do seem to be helpful in this regard.

### 2.5.1. The Tense-Aspect Simultaneity Condition (TASC)

In Schiller (1989c) the *Tense-Aspect Simultaneity Condition:*, which merely recapitulates an observation made by many scholars, was proposed as a condition on Serial Verb Constructions. Acting upon inspiration from Marshall Lewis (1990), I have changed the wording, but not the meaning, of the condition.

26) *Tense-Aspect Simultaneity Condition: The serialized constituents involved may only bear a single value for tense or aspect operators.*

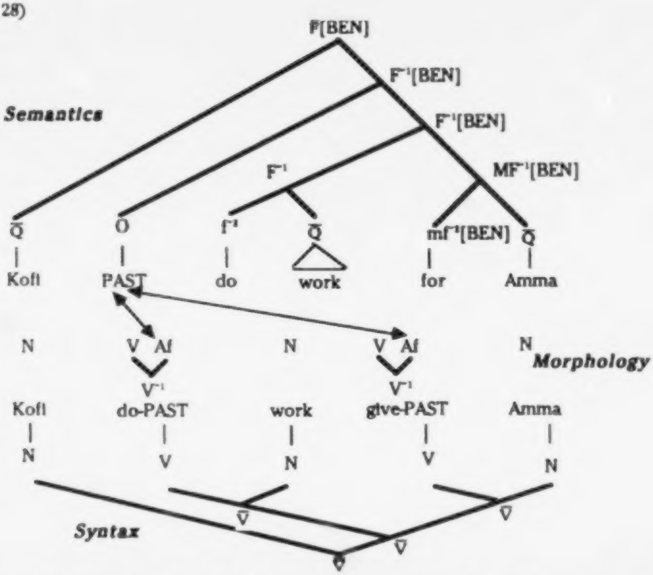
In a language which has morphological inflections for tense or aspect, this will have the following consequences. In a subordinating serial verb construction, the multiple verbs may each be marked for tense or aspect, but there must be only a single tense or aspect involved[8]. Alternatively, the marking may be born by only one verb, in which case it has scope over the entire construction.

Baker (1989) points out that this is consistent with his GB analysis, since features present under INFL are copied onto the heads of VP's. Thus, for him, the syntactic headship of each of the verbs is demonstrated. Autolexical theory provides the possibility of the tri-modular representation of (27) as shown in (28):

| | | | | | | |
|---|---|---|---|---|---|---|
| 27) | Kofiyɛ | yɛ-ɛ | adwuma | ma-a | Amma | (Akan) |
| | Kofi | do-PAST | work | give-PAST | Amma | |

'Kofi worked for Amma.'

28)



This tree shows that in the semantics, represented by the upper half of the tree, a single aspect marker is present, instantiated twice in the morphology, represented by the lower half of the tree. This "spreading", as Byrne (this volume) terms it, is common in those V̄-serializing languages which have inflectional morphology to indicate tense or aspect. The only significant difference between Byrne's analysis and the Autolexical approach to spreading is that in the approach adopted here the category of tense would not appear in the syntactic representation at all, as it is only a semantic entity in Akan, which is instantiated directly in the morphology without being mediated by any syntax at all.

### 2.5.2. The Unsunderability Condition

In order to distinguish Subordinating Serial Verb Constructions from Coördinating Serial Verb Constructions, Schiller (1989c, revised slightly here) suggested that for the former type, the following test applies:

29) *Unsunderability Condition: No conjunctive particle can appear in, or be inserted between, the serialized constituents without altering the meaning of the sentence.*

This can be illustrated in (30 and 31), where the sentences take on different meanings depending on the presence of absence of a conjunction. In (30), the implication is that the food also arrived at the house, but (31) carries with it no such implication.

30) kŏăt yɔɔk mhoup mɔɔk phtĕăh (Khmer)
prn. take food come house
'He brought the food home.'

31) kŏăt yɔɔk mhoup haəy-nɯŋ mɔɔk phtĕăh
prn. take food and come house
'He took the food and then came home.'

### 2.5.3 The Phrase Structure of Serial Verb Constructions

A number of surface structure representations have been proposed for Subordinating Serial $\bar{V}$ Constructions. These structural descriptions are presented below. In each case it is the surface representation that is given, and not the deep structure posited in some transformational accounts.

The earliest discussion of serial verbs was a pedagogical grammar (Christaller 1875) which contained little theoretical discussion but did distinguish two types of combinations, including an "essential combination" where

> "one verb is the principal, and nother is an auxiliary verb, supplying, as it were, and adverb of time or manner, [...] or forming or introducing a complement [...] or adjunct [..]; or the second verb is supplemental, forming part of a verbal phrase. The actions expressed by both verbs are simultaneous and in an internal or inseparable relation or connection. In this case, the auxiliary or supplemental verb is coordinate ojnly in form, but subordinate in sense, whether it be preceding or succeeding the principal verb".

What is so remarkable about this quotation is that it seems to capture exactly the same insights as the autolexical account, if we take Christaller's "form" to represent syntax and his "sense" to represent semantics, a fairly obvious interpretation.

The earliest treatment of serial verbs from a transformational perspective was presented in Stewart (1963). This analysis assumed two underlying sentences which underwent an obligatory transformation to form a single surface entity.

Categorial considerations entered the picture in Ansre (1966), which discussed some serial verbs as behaving syntactically in a manner later to be termed 'coverbs'. These will be discussed in Chapter 6. For present purposes, it is simply important to note that Ansre realized that although the serialized formatives were identical in form to verbs, they often had qualities of other categories: "[...] many verbs when they stand next to others play the part of English prepositions, adverbs, or conjunctions." But Ansre was not focussing on the syntax of these items so much as their morphology ("they are no longer conjugated") or semantics.

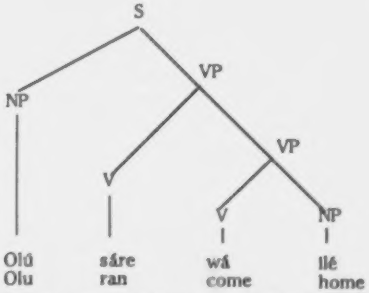
The question of base-generation versus transformational derivation of serial verb structures was a subject of continuing debate in the mid-1970's. Stahlke (1970) launched a major debate when he presented a Generative Semantics account of serialization. His careful study rejected a coordination treatment. He noted that serial structures and those with overt coordination differed in that the latter could take an additional conjoined sentence which contradicts an implication of the conjoined structure. Thus, to use English paraphrases of his Yoruba examples for clarity, the serial structure 'I take book come home' differs from 'I take book and come home' in that only in the latter case is it possible to continue the sentences with 'but I forgot to bring it [the book]'.

On a more concrete syntactic level, he noted that the object NP's of serial verbs can be Wh-fronted, which, if conjunction were involved, would violate the Coordinate Structure Constraint of Ross (1967), a constraint which seems to hold in Yoruba, according to Sebba (1987). Finally, he noted that all of the serialized verbs must agree with regard to negation, auxiliaries and mood.

Stahlke also considered the possibility that the serialized verbs might be case markers, but rejected that possibility on grounds which were then relevant, but which seem less so today (if one accepts radical autonomy of components.) So, for example, one objection was that these lexemes are inflected for case (a morphological consideration). Another objection, based on the notion that redundancy in grammar was somehow undesirable, was that these case markers could be replaced by lexically distinct prepositions. This objection will be taken up in Chapter 6.

Bamgbose (1974) was primarily concerned with differentiating two types of serials, linking (what has been described here as coordinate) and modifying (what has been described here as subordinate). For the latter type, which is our concern in this section, he posited the following structural description (32):

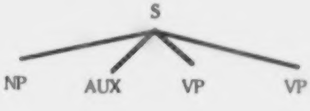
32)



This description involves syntactic subordination of the lower VP within the scope of a VP.

A major syntactic analysis was carried out by Schachter (1974). His primary concern was whether serial structures were base generated or derived via transformations. He proposed the following base-generated structure:

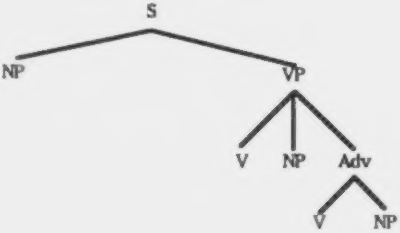
33) Schachter (1974) [S → NP Aux VP VP*][10]



This generation of a flat structure as a base rule was somewhat controversial, as at the time binary branching was in vogue for most non-adverbial material. Indeed, it wasn't long before the interpretation of serial matterial as adverbial was brought into the theoretical arena.

Schachter's analysis was criticized by Stahlke (1975) in reply to the aforementioned article. His objection was based on the "adverbial" nature of the subordinate verb phrase. Stahlke was not arguing that all serials were adverbial in nature, recognizing that there were some irregular "lexical collocations", some modal structures, and some sentential conjuncts. But for the majority of cases he proposed the following analysis.

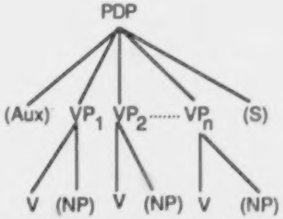
34)



It should be borne in mind that this proposal was made before the introduction of $\bar{X}$ syntax by Jackendoff (1977), so there was nothing objectionable in the rule which rewrote an adverb as a combination of verb plus noun phrase, though this structure would be more plausibly analyzed as a verb phrase (as in Sebba 1987). Ignoring the question of node labelling, the structure is in any event quite different from that of Schachter (and Filbeck, to be presented below), in one way in which the structure proposed by Sebba differs from my own analysis. But Schachter's analysis fails to posit a single syntactic constituent which includes all of the serialized material.

Filbeck's analysis of Thai serial verb constructions does not differ substantially from that of Schachter (1974):

35) Filbeck 1975



Here the predicate phrase dominates a node for auxiliary verbs followed by a number of verb phrases and then, optionally, sentential material.

Williams (1976) proposed analysis which was quite similar in many respects, but which added an important dimension in that he explicitly recognized subcategorization features on some serialized verbs. His syntactic rule was stated as:

36) VP → V (NP) (PP) (VP)

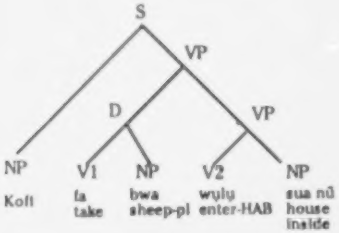
In his dissertation on Sierra Leone Krio, he discussed the following example, which we will return to in (41):

|  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|
| 37) | Mòdúpe | dé | wákà | gó | nà | mákit | (Krio) |
|  | Modupe | PROG | walk | go | LOC | market |  |
|  | 'Modupe is walking to the market.' |  |  |  |  |  |  |

The last of the major analyses of the 1970's was that presented by Van Leynseele (1975). She proposed a new phrase structure node, D, which would have the rewriting specifications of a VP but would represent a subordinate proposition. She gave the following preliminary base-generated surface structure of a sentence of Anyi:

|  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|
| 38) | Kòfi | fa | bwa | wụlụ | sùá | nũ |
|  | Kofi | take | sheep-PL | enter-HAB | house | inside |
|  | 'Kofi takes the sheep into the stable.' |  |  |  |  |  |

39)



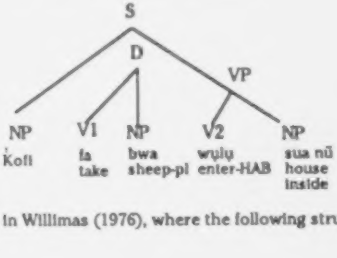
Van Leynseele 1975 preliminary analysis of (38)

She notes that this analysis has the advantage "That semantically full handling verbs mayt be inserted directly under V1 without positing other underlying sentences or clauses, thus avoiding the epenthetic verb insertion rule as well as equi-NP and equi-fa-phrase deletion rules."

But Van Leynseele was not fully satisfied with this analysis. She went on to remark that "In the above P-markers, I have followed Stahlke (1974) in assuming that there is one VP node dominating all surface VP's in series. However, Schachter (1974:278) maintains that this highest VP node has not been "earned" by Stahlke's argumentation. And as yet, no clear evidence for such a node has turned up in the Anyi material. Therefore, the following fule may turn out to be superior to the preceding proposals: S → NP (D) VP."

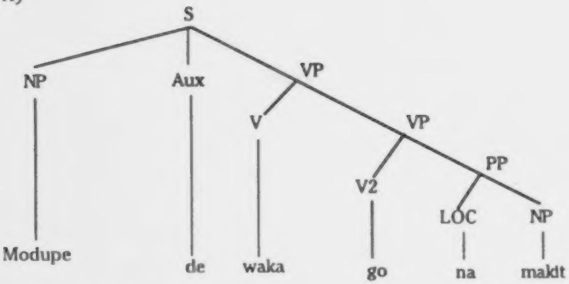
She provided the following structual representation:

40)



The debate continued in Willimas (1976), where the following structure was suggested:

41)



Sebba notes that:

> "The lexical entry for go would specify that it is followed by a PP bearing the thematic relation GOAL; this would enable go to fit into the available VP position after waka. Other "serial verb" sequences in which one verb phrase appears to bear a thematic relation with respect to a verb are handled similarly by appropriate lexical features.
>
> Williams's analysis is an important advance in that it recognizes that relationships between at least some "serial verbs" must be handled in the lexicon. It also provides a phrase structure rule which treats the whole verbal series as a consitutent, which is an advantage over Schachter's proposal."

So far so good. But Sebba has an objection:

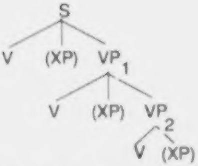
> "A problem with Williams' rule ... is that it produces many strings which cannot occur in surface structure, and would therefore have to be excluded by rules from some other component, for example lexical strict subcategorisation rules or syntactic filters."

It is precisely this course which is being adopted in the present work. Semantic subcategorization rules in the lexicon will be shown to be necessary to account for the different types of verb serialization, particularly with regard to semantic interpretation of subjecthood. Thus no *additional* mechanism is necessary in this treatment of serial verb constructions.

The issue of the phrase structure of serial verb constructions then left the theoretical arena for about a decade. This may have been due, in part, to the fact that the wide acceptance of $\bar{X}$-theory which followed the publication of Jackendoff (1977) rendered many of these proposals unworkable. In addition, the presence of serial verb constructions in many creole languages brought a new angle to the debate - the question of the relationship between serialization and creolization. In this new debate, sparked by the publication of Bickerton (1981), the actual phrase structure was not a significant issue.

In the mid-1980's, however, the structure of serial verb constructions once again became a popular topic. Sebba (1987) was the most thorough study of the phrase structure undertaken to date. He provides the following representation[11]:

42) Sebba 1987



here X can stand for N or P. (The top left V was probably intended to be NP.)

In Sebba's view, adopted by most of the GPSG analysts and Categorial Grammarians (e.g. Welker 1990), the verb phrases are not sisters, but rather are embedded VP nodes. He does not offer any syntactic rationale for this decision, but relies instead on semantic criteria. Even so, he runs into some problems. Consider the following data from Akan (Christaller 1930):

43) a. ɔde adare not tw̃aa nkrɔmata no
he-take machete the cut-PAST branch the
'He cut the branch with a machete'
b. ɔde adare not tw̃aa nehõ
he-take machete the cut-PAST himself
'He cut himself with a machete'
c. *Kofi de Amma birimm no
Kofi take Amma beat-PAST her/him
(* on the reading where no=Amma)
cf, Kofi used Amma to beat her*(self) [Commentary: Sebba 1987]

Sebba comments on (43.a & b) that:

> "If a non-reflexive pronoun occupies the NP3 slot, this could not be coreferential with an inanimate NP in the same sentence because inanimate NP's do not have pronominal anaphora in this position, although animate NP's do. However, a pronoun in NP3 position does not seem to be able to refer to an animate NP2 either:"

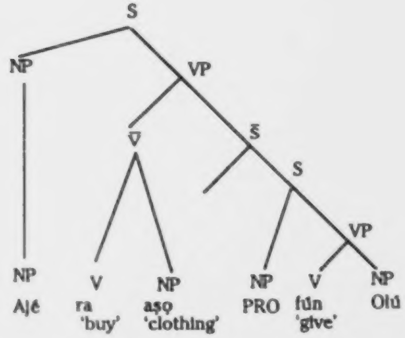
He then cites (43.c) and notes that:

> "Since NP1 is clearly the subject of both V1 and V2 in these examples (as shown by the reflexivisation facts) we analyse them as "VP-coordination" produced by the rule VP → VP VP. The fact evidenced by (c), viz. That a pronoun in NP3 position cannot be an anaphor of NP2, is probably to be explained by another principle."

The problem here is that the examples cited (40.a & b), seem to be normal serial $\bar{V}$ constructions, but the reflexivization facts[12] force Sebba to adopt an analysis for these forms which is unlike other instrumental forms. In fact, he adopts for these examples the analysis which is posited in this thesis for all subordinating serials. I therefore take these examples to be supportive of the syntactic analysis adopted in this work.

Awoyale (1988) proposes, and then rejects, the following two analyses which differ from all others proposed so far. In the first, he posits a sentential complement to the matrix verb phrase, while in the second he proposes a structure in which the object of the matrix verb is embedded in a subordinate clause (both trees are meant to represent the sentence Aje bought clothes for Olu) :

44)



Of this structure, which he doesn't attribute to anyone in particular, he raises the following questions.

> "First ... what is the status of PRO? Second...how does $\bar{S}$ come in (without a COMP node) when there is no evidence of coordination or embedding?..."

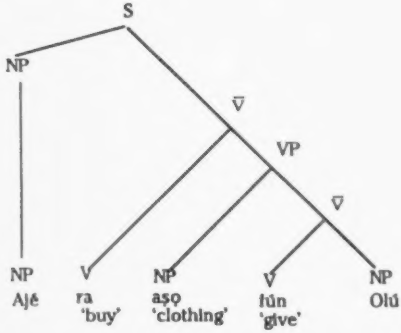
Although I do not find this representation appropriate, neither of these objections seems valid. If one wanted to have a complementation structure of the sort shown in (45).

45) $[_S\ NP\ [_{VP}\ \bar{V}\ [_{\bar{S}}\ COMP\ [_S\ PRO\ VP]]]]$

This should not be objectional on structural grounds just because there is not surface complementizer. The simplest objection to the given structure is that the subordinate material does not behave like an $\bar{S}$ (or S), in that it cannot contain an overt negator of its verb (as we shall see below), or any agreement or tense markers which do not match that of the matrix verb. In other words, nothing about this structure suggests why it must obey the Unsunderability Condition and the Tense-Aspect Simultaneity Condition.

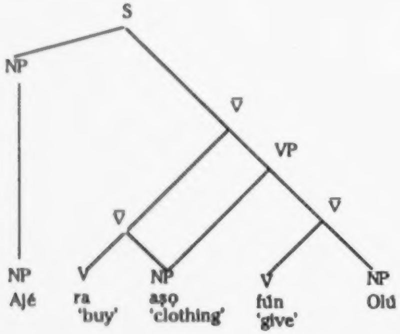
Awoyale's second tree is presented in (46):

46)



Here his objection is that there is no indication that fún is subordinate to rà, and he raises the question "does this structure commit us to recognizing double object structures in the language?". With regard to the first part of his objection, I agree completely, having made the same point about Sebba's representation. But on the second point I am less clear, unless he had in mind the following:

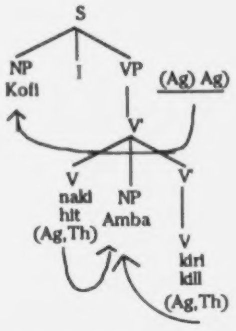
47)



But perhaps he is concerned more (or exclusively) with the semantics in his comment. Unfortunately, the GB framework does not allow such a separation of syntactic and semantic analysis, because the Projection Principle requires that the lexical requirements of the verbs be consistent at all levels of a derivation.

These concerns of thematic relations and the structural rquirements imposed by the projection principle gave rise to an elaborate description of the syntax of serial verb constructions by Mark Baker. Baker explicitly allowed the sort of double object constructions which Awoyale was reluctant to recognize. His analysis employed the following description of a typical serial construction:

48) Baker 1989



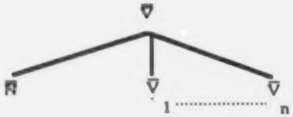
'Kofi struck Amba dead'

Here the θ-roles are assigned as shown by the arrows (AG = Agent, Th = Theme). For Baker, serialized constituents are dominated by a single V' node, but there is no node which dominates a single constituent such as hit-Amba. Under Baker's Government and Binding account, naki must be to the left of Amba by the word order priciple that X° θ-marks phrases to its right in VO languages. Kiri must be to the right of Amba, since it indirectly θ-marks it, by the word order principle that for categories with a bar-level grater than zero, the category is predicated of an NP to its left in VO languages.

49) Schiller 1989c [∇ → N̄ ∇*][13]

In Schiller (1989b) I provided the rule cited in (50), which would allow for structures similar to that of Schachter and Filbeck.

50)

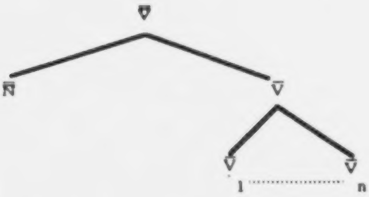


In fact, however, the analyses presented in the paper did not make direct use of these rules. Instead two rules, never explicitly stated, were assumed throughout:

51) ∇ → N̄ ∇
52) ∇ → ∇*

So that the appropriate structure, used in the analyses of the paper, is:

53)



It is this structure which I take to be the correct structural description of the **syntax** of the subordinating serial $\bar{V}$ construction. Many of the alternative structures proposed in the preceding section were motivated more by semantic than syntactic consideration. In Chapters 4 and 5, I will present arguments for particular semantic structures that do not always parallel the syntactic structure presented above, but I know of no **syntactic** arguments against the simple concatenation of $\bar{V}$'s.

Welker (This volume) provide an analysis of very simple subordinating serial verb constructions from a categorial grammar perspective. She distinguishes two types, depending upon whether there is a shared object or a case of the object of the first verb functioning as the semamtic subject of the second.

She proposes a complex category (VP\(VP/NP))\NP which can be described as a category which combines with a noun phrase to its left to form a category of verb phrase lacking an noun phrase. This category is created in the lexicon by a productive lexical rule which applies to only those verbs which happen to participate in serial constructions. The semantic translation of the syntactic rule depends on properties of the specific lexical item. In the given example, the translation provided by Welker is as in (54.a), as a result of the aforementioned lexical rule, which is presented in (54.b).

54) a. hit'(a)(k) ? kill'(a)(k)
b. If $\beta_1$ is a lexical item of category VP/NP, there is another lexical item $\beta_2$ of category (VP\(VP/NP))\NP. The sematic translation of $\beta_2 = \lambda y \lambda r \lambda x[R(y)(x) ? \beta_1(y)(x)]$.

If, however, the final verb in the string is intransitive, as in a serial which might be translated as 'Kofi push Amba fall', Welker's analysis is as in (55):

55) a. push'(a)(k) ? fall'(a)
b. If $\beta_1$ is a lexical item of category VP, there is another lexical item $\beta_2$ of category (VP\(VP/NP))\NP. The sematic translation of $\beta_2 = \bar{\chi} y \;\; R \bar{\chi} x[R(y)(x) ? \beta_1(y)]$.

Without getting into the theory-internal details of the formalism, the analysis basically states that there are lexical rules which will turn both transitive and instransitive verbs into the category (VP\(VP/NP))\NP, with semantic tranlstion rules preserving the difference in transitivity. As this proposal is quite new, the details of analysis for many of the more complicated serial constructions have not been worked out. I include it here not merely for completeness, but rather because it does show that categorial grammar can, indeed, manage to account for the correct semantics of a serial verb construction without directly involving a syntacto-semantic mismatch[14]. One question which immediately springs to mind is whether this complicated syntactic category is justified on any grounds, e.g. are there any other lexical items in the languages under consideration (or any other languages, for that matter), which are members of the category (VP\(VP/NP))\NP.

The preceding discussion constitutes an overview of various treatments of subordinating serial $\bar{V}$ constructions.

## 3. Defining Subordinating Serial ∇ Constructions

We can now define the Subordinating Serial ∇ Construction as follows:

56) A construction is a Subordinating Serial ∇ Construction iff:
   a. It contains two or more ∇'s dominated by a single ∇ node.
   b. The ∇'s are associated with a single proposition in the semantics, which contains an F and an MF.
   c. The ∇'s obey the Tense Aspect Simultaneity Condition.
   d. The ∇'s obey the Unsunderability Condition.
   e. At least one argument is shared by the predicates corresponding to the two verbs.

These criteria eliminate the following constructions which are sometimes included in the discussion of serial verbs:

1. Coordinating Serial Verb Constructions (b,c,d)
2. Auxiliary structures (V ∇). (a)
3. Causatives. (a)
4. Complementizers (a)[15].

On the other hand, our criteria permit consideration of "coverbs" as serial verbs, a topic which will be mentioned briefly below.

In addition, we can further define a subset of Subordinating Serial ∇ Constructions where the order of the ∇'s matches the order one would expect to find given the fundamental word order of the language. That is, such that in a VO language the VP representing the semantically primary proposition (F) precedes the VP representing the semantically subordinate proposition (MF), while in an OV language the semantically subordinate proposition (MF) precedes the VP representing the semantically primary proposition (F).

57) *Canonical Subordinating Serial Verb Construction: A subordinating serial verb construction where the order of the ∇'s reflects the head-complement order of the language.*

## 4. The Semantic Case Instantiation Principle and its predictions.

The Semantic Case Instantiation Principle (58) was introduced in Schiller (1989c).

58) Semantic Case Instantiation Principle (SCIP): *Semantic Case relations are instantiated by the most concrete possible mechanism.*

Because of the Relative Abstractness Of Levels (Schiller 1989c), it will be predicted that semantic cases such as instrument, goal, source and location will be instantiated morphologically, if possible. If a language does not have the capacity for morphological instantiation, syntactic means will be used, generally via adpositional phrases. Failing that, a language may resort to Subordinating Serial Verb Constructions. Some languages, e.g. Kalam (Pawley 1980) do not even have that mechanism available, and must employ yet another mechanism.

Let us begin by considering the instrumental case [INS], as instantiated in a number of languages:

59) a. Ya režu khleb nožom. (Russian)
I$_{[NOM]}$ cut bread$_{[ACC]}$ knife$_{[INST]}$
'I cut the bread with a knife.'
b. I cut the bread with a knife (English)
c. Sokh kac sac nuŋ kɑmbut (Khmer)
Sok cut meat with knife
'Sok cuts the meat with a knife.'

d. Mi e teki a nefi koti a brede (Sranan)
I ASP take the knife cut the bread
I cut the bread with a knife.
'I cut the bread with a knife.'
e. prichaa cháy mîit tàt nia (Thai)
Prichaa use knife cut meat
'I cut the bread with a knife.'
f. Khñom yɔɔk kambut tau kac sac (Khmer)
I take knife go cut meat
'I picked up a knife to go and cut meat.'

(59.a) shows the morphological case instantiation of [INS], via an inflectional ending in Russian. (59.b & c) demonstrate the syntactic case instantiation of [INS], where a preposition is used. In the both examples, the preposition chosen is identical to the marker of comitative relations. Thai and Sranan lack appropriate prepositions, however, and therefore a serial verb construction is employed, involving the verb 'take' (59.d & e). But what about (59.f)?

(59.f) is not a Subordinating Serial Verb Construction. Informants state that this cannot be used to express instrumentality. Even with an aspect marker inserted, it cannot mean that the meat was cut with a knife. In fact, the sentence implies that the meat did not get cut at all, only that the knife has been picked up with that intent. Yet the sentence is not exactly parallel to (60), which involves a clear purpose clause marked by 'give' in a Subordinating Serial Verb Construction. Nothing in 2f. implies any intent.

60) Khñom yɔɔk kambut ʔaoy tau kac sac (Khmer)
I take knife give go cut meat
I picked up a knife to go cut meat.

Why should Khmer and Sranan differ so greatly in the interpretation of (59.d & f). The availability of (59.c) combined with the Semantic Case Instantiation Principle. suggests that Khmer use (59.c) rather than (59.f). The Semantic Case Instantiation Principle may, in fact, be related to Gricean maxims. The more concrete manner of expression is often briefer.

## 5. Coverbs and Syntactic Polysemy

Syntactic Polysemy (defined in Schiller 1989a) is a phenomena seen in many languages, especially isolating languages. A single morphological form serves to fill a variety of syntactic functions. Consider the examples below:

61) a. Sokh nəu phtĕăh (Khmer)
Sokh be-in house
'Sok is home.'
b. Sokh rŏăh nəu srok srae
Sokh reside in province rice-field
'Sokh lives in the boonies.'
c. Sokh nəu rŏăh nəu srok srae
Sokh still reside in province rice-field
'Sokh still lives in the boonies.'
d. nəu tunlee saap Sokh cap trəi
in lake fresh Sokh catches fish
'In the Tonlee Saap, Sok catches fish'
e. khñom thvəə kaa nəu laəy
I do work in still
'I'm still working.'

In (61.a), /nəu/ is the main verb, while in (61.b) it can be analyzed either as a preposition or as part of a compound verb. An aspectual function is seen in (61.c)[16], while an unambiguously prepositional function is seen in (61.d). The situation in (61.e) is less clear, with analysis as an adverbial phrase (or compound word) or prepositional phrase possible. Since the phrase is not possible in topic position (a possibility for prepositional phrases but not adverbial phrases in Khmer) and cannot be reduced to a single occurence of /nəu/ (62), I favor an analysis as a compound adverbial.

62) a. *khñom thvəə kaa nəu
I do work still
b. nəu laəy khñom thvəə kaa
in stilll I do work
c. nəu suən cbaa khñom thvəə kaa
in garden garden I do work
'Il work inthe garden.'

The relationship between the use of a word as both main verb and preposition is the subject of a great deal of literature. The "coverb" analysis ( Li & Thompson 1973, Clark 1977), where a verb is bleached of its semantics over time and becoms a preposition is appropriate here, even though it only covers two of the uses of the Khmer word /nəu/. For many years there has been discussion of data from various language families where a diachronic analysis has been suggested where a verb gradually loses its syntactic status as a verb and takes over the function and category of a preposition, or, in some cases, maintains both the category of verb and the category of preposition. This process is sometimes called *grammaticization* (e.g. Matisoff, to appear).

## 6. Word Order and Subordinating Serial Verb Constructions

The fundamental word order of a language and the presence of serial verb constructions are related in a number of obvious and subtle ways. Schiller (1990b) discusses these links with regard to a wide range of serial constructions, but here we will be concerned only with subordinating serial verb phrase constructions.

Recall that previously the following types of serial structures were distinguished:

63) *i.* V+ V concatenation structures
*ii.* V+∇ auxiliary structures
*iii.* ∇+∇ serial verb phrase structures
*iv.* Finite ∇+ Finite ∇ serial finite verb phrase structures

The distribution of these types according to fundamental word order is as follows:

64)

| | i(v*) | ii(V+∇*) | iii(∇*) | iv(∇*) |
|---|---|---|---|---|
| SVO | yes | yes | yes | rare |
| SOV | yes | yes | rare | no |
| VSO | no | no | no | no |
| VOS | ?[17] | yes | no | no |

Why should word order considerations influence serial verb constructions? Let us consider each of our four types and the characteristics each requires in order to be present in a language.

Type *i* can be described as an incorporation structure in the sense of Baker (1988). From a transformational standpoint, the language must permit X° movement in order for these to arise. From an Autolexical perspective, it is necessary that a language have a node admissability condition permitting the concatenation structure $_V$[V,V] in the syntax, and that object sharing be licensed in the semantics.

Type *ii* is the least demanding. All that is required here is that auxiliary structures exist where verbs can take ∇ complements.

Type *iii* serials call for semantic properties of subject and object sharing, require that a $\bar{V}$ be structurally present, and have a node admissablitity condition ${}_{\bar{V}}[\bar{V},\bar{V}]$.

Type *iv* serials require everything needed for type iii serialization, but in addition seem to allow either or both of the serialized constituents to be treated as a head, thus eligible for inflection.

Three types of serialization ($V+\bar{V}^*$, $\bar{V}^*$, Finite $\bar{V}^*$) can only be present if a language contains a verb-phrase constituent., since each crucially involves serialization of phrasal constituents headed by a verb. Thus we do not expect to find these types of serialization in languages where there is no $\bar{V}$ constituent. Languages where the subject intervenes between verb and object (VSO, OSV - see discussion below) should not have the possibility of these serials, and indeed, no such constructions have been attested. That leaves SVO, SOV, OVS, and VOS languages as candidates for phrasal serialization.

Serial verbs constructions tend to be found in languages which are most consistent typologically with regard to the order of head and complement.

For SVO languages, this is type 9, comprising 17% of Hawkins' Extended Sample, where the head is on the left in the major categories[18] (verb>object, noun>adjective, noun>genetive, preposition>noun). Most of our SVO examples fall into this category.

For SOV languages, the most consistent is the strict head-final type 23, which is found in 29% of Hawkins Extended Sample. (object>verb, adjective>noun, genetive>noun, noun>postposition).

Among the less consistent types, we find an unusually large number of type 10 languages (considering that they comprise only 5% of Hawkins Extended Sample), which differ from type 9 in that the adjective precedes the noun. The presence of such languages in our serial collection is not surprising, since many of them are English-based creoles.

We also find a number of rarer types and also some languages which show mixed word order characteristics. But the vast majority of our examples are SVO languages (type 9 & type 10). Given the widespread geographical and genetic differences among the languages under consideration, it is reasonable to assume that there is a principled link between word order and the existence of subordinating serial verb phrase constructions.

One principle which can help to explain this distribution is that of Tai (1985):

65) *Principle of temporal sequence: the relative word order between two syntactic units is determined by the temporal order of the states which they represent in the conceptual world.*

This non-syntactic Linear Precedence principle would be reflected in a separate, Constituent-Order module of the grammar[19] in an automodular approach.

Arguments in serial constructions are often shared by more than one predicate. Some theoretical approaches (such as GB, GPSG) show this sharing at a syntactic level, while the Autolexical approach treats this a a purely semantic phenomenon. Under this latter approach, word order cannot play any role, since only constituents, and not lexemes, are ordered in the semantic component.

Combining the Principle of Temporal Sequence with the observations made above, we will expect to find type iii subordinating serial verb phrases in four types (SVO, SOV, OVS, and VOS) of languages, with the verb phrases appearing in an order reflecting the occurence of events in the real world. We will not expect to find this sort of serialization in

VSO or OSV languages.

This last observation has empirical support in the Mon-Khmer family of languages, where the few VSO languages show only coordinating, and not subordinating serialization, as in (21), a clever explanation of which is provided by Seuren (this volume).

66) a. ti me ho taw lik me pin ke-en (Ravūa)
take you go send letter you accompany to here
Go, take the letter, and come back.

I have not been able to find examples of serialization in OSV languages, and thus the prediction that coordinating, but not subordinating serialization is possible cannot be empirically tested.

We now turn to languages which are predicted to have subordinating serial verb phrase constructions according to th analysis presented so far, but which either lack such constructions or show some deviation from the normal types of serialization we have considered so far.

There is a strong tendency for SOV languages to display verb concatenation rather than verb phrase serialization, despite the presence of a verb phrase constituent[20]. Matisoff (to appear) has already noted this point. Nevertheless there are a few examples of SOV languages which show characteristics of verb phrase serialization. They are genetically unrelated and geographically far apart, so it is reasonable to assume that each of these languages developed serialization independently. Our examples are Ijo (West African), Barai (Papuan), and Lahu and Yi (Tibeto-Burman). As we shall see, however, none of these languages conform completely to the definition of canonical subordinating serial verb construction[21] employed in this paper. These SOV languages do, however, have some kind of subordinating serial verb constructions. These constructions differ from the canonical serial verb constructions in a variety of ways.

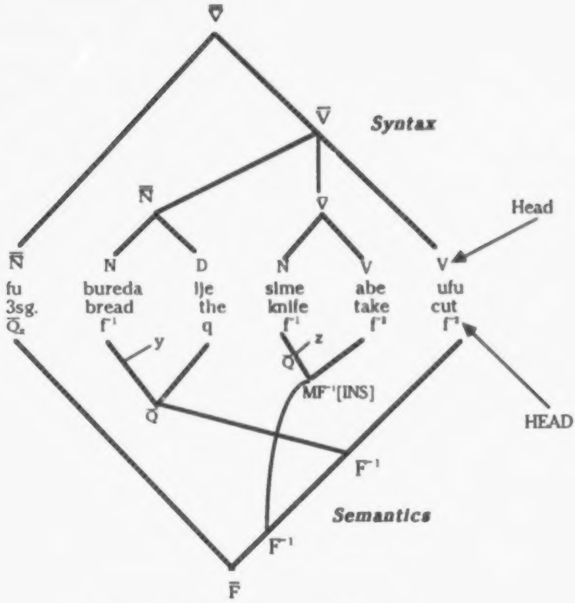
Ijo is the SOV language which comes closest to having canonical subordinating serial verb constructions as shown in (67).

67) a. dúma tun-ni a pịrị (Ijo)
song sing-Ø her-give
sing a song for her
b. bịdẹ ɦrịmọ́-nɪ́. a-yárị
cloth send her send
'send her a cloth'

Ijo is a head-final serializing language described in (Williamson, 1965). We would therefore expect the ∇ representing the main predication in (67.a) (presumably the act of singing) to appear at the end of the sentence, with the ∇ representing the secondary predication preceding it. Instead, it seems that the semantically more important ∇ precedes the semantically subordinate ∇. This can be excplained by employing Tai's Principle of Temporal Sequence given in (65) above. Under that analysis, the ∇ in (67.a) representing the singing precedes the ∇ representing the act of giving because the action of singing logically precedes the gift of the singing to the recipient[22].

Barai, a Papuan SOV language shows serialization of ∇, but with an interesting twist. The subordinate ∇ seems to be embedded within the matrix clause, as represented in the following autolexical graph (68)[23]

68)


V̿
V̄
Syntax
N̄
V̄
Head
N̄
N
D
N
V
V
fu
3sg.
Q̄ₓ
bureda
bread
f⁻¹
ije
the
q
sime
knife
f⁻¹
abe
take
f⁻²
ufu
cut
f⁻²
y
z
Q
Q̄
MF⁻¹[INS]
HEAD
F⁻¹
Semantics
F⁻¹
F̄

Barai: He cuts the bread with a knife.

The apparant discontinuity should not be misconstrued - the semantic component contains no linear precedence relations, only dominance relations, and thus this semantic representation is no different from one in which the semantic constituent $\mathrm{MF}_{[INS]}$ (instrumental modifying predicate) is to the right of its sister predicate.[24]

Lahu is a Sino-Tibetan SOV language which has been deeply investigated by James Matisoff (1973). It is a language characterized by a great deal of verb concatenation, but much less V̄ serialization. Nevertheless, there are some examples of what seem to be typical serial V̄ constructions.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 69) | yɔ̄ | á-cu-ka | yù | lɛ | g̈ɔ̄-cá | câ | ve | (Matisoff: to appear) |
| | 3prn | chopsticks | take | PRT | cabbbage | eat | PRT | |
| | 'He, taking chopsticks, eats cabbage.' | | | | | | | |

There are two particles (PRT) involved in this sentence. Matisoff (to appear) describes lɛ as a particle which indicates that the VP to which it is concatenated is not the final VP in the sentence. The ve particle is commonly used to indicate an affirmation of the previous assertion according to (Matisoff 1973). The particle might be viewed as some sort of coordinator or subordinator, but for our purposes it is sufficient merely to note that its obligatory nature demonstrates that the V̄ serialization in Lahu is indeed marked in some fashion, and thus does not fully meet the criteria specified for subordinating serial verb constructions.

Yi, also known as Lolo, is a language with both SOV and SVO characteristics. Wheatley (1984, 1985) presents convincing arguments that "The Yi languages reflect a change from OV-concatenating to OV-serializing structure." Wheatley provides evidence such as the following contrast (25) between Yi and the related Tibeto-Burman language Lahu to which I have added a comparable Mandarin Chinese example.

70) a. ŋa$^{33}$ jɛ$^{33}$ b'ɛ$^{31}$ t'ɤ$^{44}$ sĩã$^{33}$ tsɿ$^{31}$ kɯ$^{44}$ tsɤ$^{44}$ (Yi)
my mother clothes put trunk inside be-at
'My mother put the clothes in the trunk.'
b. ŋà ɔ̀-e vɔ̀ʔ-qâ thàʔ ta-qō ɔ̀-qhɔ kə tā ve yò (Lahu)
my mother clothes OBJ box inside put PT PT PT
'My mother put the clothes in the trunk.'
c. wo de mu-qin ba yifu fang zai xiang-zi li (Mandarin)
I (poss) mother BA clothes put in trunk inside
'My mother put the clothes in the trunk'

For discussion of these examples, see Schiller 1990 (a,b or d).

What is the difference between SVO and SOV languages that encourages SVO V̄-serialization while preferring concatenation in SOV languages?

There are at least three possible explanations for the head-medial (from a constituent viewpoint) order:

i) The given order may well be due to the principle of temporal ordering suggested in Tai (1985).

ii) Kim (1988) discusses a mechanism of preverbal focusing in languages of this type (SOV strict head-final, Type 23). He concentrates on the correlation between the occurrence of a focused element to the immediate left of the verb with the typological facts of type 23 languages.

Applying Kim's observations to the Ijo examples, we can suggest that it would be inappropriate for the verb phrase representing the semantically subordinate material (notated for present purposes as $VP_2$) to precede the verb phrase representing the semantically primary material (notated for present purposes as $VP_1$). Consider the possibilities given in (71):

71) a. NP VP1 VP2
b. NP VP2 VP1

If the position immediately to the right of the first verb encountered in the string is the one which receives focus, then if Ijo employed a canonical serial verb construction (71.b) this focus would be on the object of the subordinate predicate. By reversing the order of the VP's, the focus falls on the object of the primary proposition instead. Thus in (67.a), the focus is on song rather than her.

iii) A third answer lies in an observation articulated in Dryer (1980). He noted that many SOV languages employ SVO order when the direct object is a sentential complement. Hawkins(1988:34) refined the observations made by Dryer and came up with the following restatement:

> "If sentential NP's and simple NP's of the same grammatical relation have at least partially different word orders, and if these differences involve *clause final* and *clause internal* position, then it will be the sentential NP which exhibits the preference for clause final position."

Since serialized phrases are rather clause-like, especially if one takes semantic as well as syntactic information into account, it is not unreasonable to suggest that the order of serialized verb phrases is rightward, rather than leftward (as one would expect in a head-final language), due to the same factors which affect sentential NP's as opposed to simple NP's.[25]

It is quite likely that a combination of the three proposed explanations is at work. Focusing, temporal ordering, and the heaviness of clausal constituents all provide forces which encourage the $\bar{V}$ representing the primary proposition to precede the $\bar{V}$ representing the subordinate proposition.

Finally, there remains the question of word order in SVO languages. In some cases these languages also have the shared object to the right of a verb cluster.

72) a. koun baoh phtĕăh s?aat (Khmer)
child sweep house clean
'The child sweeps the house clean.'
b. koun baoh sɑm?aat phtĕăh
child sweep clean$_{(CAUS)}$ house
'The child sweeps the house clean.'
73) a. Kofi nake kiri Amba (Sranan)
Kofi hit kill Amba
'Kofi struck Amba dead'
b. Kofi nake Amba kiri
Kofi hit Amba kill
"Kofi struck Amba dead'

There are two attested word orders for the serial construction. (73.a) is a marked form which was attested in the 19th centruy and is still accepted by some speakers today, according to Sebba (1987). Baker (1989), in a footnote, asserts that such sentences "are not normal Sranan", and therefore fails to provide an explanation for this alternative word order, which his account rules out as follows.

Under Baker's Government and Binding account, nakl must be to the left of Amba by the word order priciple that X° θ-marks phrases to its right in VO languages. Kiri must be to the right of Amba, since it indirectly θ-marks it, by the word order principle that for categories with a bar-level grater than zero, the category is predicated of an NP to its left in VO languages.

What is particularly puzzling is that the structure in (73.a) should be an allowable case of incorporation (cf. Baker 1988)[26]. One could plausibly suggest that there are two forms of Sranan, call them SrananA and SrananB, which differ only in that the SrananA dialect facultatively permits incorporation structures while SrananB dialect does not. Of course further data regarding SrananA, the 19th Century dialect, would be necessary before positing the incorporation structure.[27]

One can conclude that the Semantic Case Instantiation Principle, combined with the Principle of Temporal Sequence, helps to explain the distribution of subordinating serial verb phrase constructions in the languages of the world. Such constructions are in no way marked, but are fully predictable given certain properties of a language. An SVO language lacking morphological or prepositional devices will have subordinating serial verb constructions in the unmarked case. We do not expect to find many languages which lacks these constructions, and indeed, we do not find them. On the other hand, SOV languages are less likely to serialize verb phrases, and so we find verb phrase serialization as a marked case. Instead, we see verb concatenation as the dominant device, though in some cases, such as Kalam, a more original method of marking semantic case is employed.

1 This paper was adapted from my doctoral dissertation (Schiller 1990d). This revised version of the paper takes into account the many insights provided to me at the Mini-Conference, and reference is made to a number of those papers, which, I hope, are actually presented in this volume. All references are to handouts and notes made at the conference, and not to the final versions as published in this volume. The reader should note that my representations may not match those published in other papers in this volume, for which an explanation may lie in a change of mind on the part of an author, or, more likely, a simple and unfortunate misrepresentation on my part. I have been fortunate in obtaining the advice and opinions of a number of fine scholars, including (in more or less chronological order) Jerrold M. Sadock, Alexander Caskey, Jim McCawley, Derek Bickerton, Steve Lapointe, Marshall Lewis, Pieter Seuren, Pieter Muysken, Geoff Pullum, Martha Ratliff and all of the conference participants. With all that help, one might think that this work is error-free. It almost certainly isn't, and to the extent that there are mistakes in judgement, analysis, or reference, please blame me alone.

2 See Schiller (1990d:Chapter 4)

3 Secondary subject deletion

4 In Schiller 1990d the notion of governed pseudocomplementation, restated as semantic subcategorization, plays a very significant role in distinguishing between two major types of subordinating serial $\bar{V}$ constructions.

5 This seems to bear a strong resemblence to switch-reference phenomena.

6 Translation from the Russian is mine.

7 Ayowale (1988) makes reference to $\bar{I}$-serialization with regard to Yoruba, but fails to provide examples, and then goes on to remark that "It is clear from the weight of evidence presented in this paper that we can ignore IP in our account of serialization."

8 Given that it will be suggested below that negation can also have only a single operator with scope over the proposition represented by the serialized constituents, it might be advisable to generalize TASC to a semantic single operator specification condition. It is not clear, however, that the restriction on negation holds as universally as does the restriction on tense-aspect marking.

9 Lit. already-with, this compound is fully lexicalized.

10 Where * indicates zero or more occurrences of VP.

11 I do not yet have a copy of the dissertation, so this tree is taken from Sebba 1987:22.

12 Assuming these to be syntactic in nature. From a GPSG standpoint, the syntactic and semantic facts are by definition parallel, so that the question of in which component reflexivisation lies is irrelevant.

13 Where * indicates one or more occurrences of $\bar{V}$.

14 I was not alone in assuming that the mismatch between syntax and semantics would rule out a categorial analysis, but I underestimated the λ calculus.

15 It has long been noted that serializing languages tend to use the verb 'say' as a complementizer. But it is by no means clear that the verb which precedes it constitutes a $\bar{V}$. That is, verbs of speaking may subcategorize for sentential complements headed by 'say', rather than for simple verb phrases.

16 This use provides support for a metaphorical device licensing syntactic polysemy. Specifically, Lakoff's "States are Locations" metaphor provides a nice link between the adverbial and main verb uses.

17 I have yet to find examples in the O-first languages. VOS is attested in a number of Austronesain languages, but so far I have not found a $\bar{V}$-serializing example, as most resemble Fijian in having either inflectional morphology or prepositions, where the Semantic Case Instantiation Principle predicts that $\bar{V}$-serialization will not be found.

18 The relative order of head-complement in noun-numeral structures, and relative clauses, as well as some other minor categories will not be considered here.

19 see Schiller 1990d, Chapter 7.

20 It may be that some SOV languages lack a verb-phrase entirely, but some, such as Japanese have been shown to possess a $\bar{V}$ constituent.

21 A canonical subordinating serial verb construction is a subordinating serial verb construction which has verb phrases appearing in the syntax in an order which conforms to underlying word order in terms of the both the semantic and syntactic head. In other words, in a VO language one expects that the phrase containing the semantic head will precede the subordinate material, and that in an OV language it wil follow subordinate material.

22 Baker (1989) objects, but his objection is dealt with in Schiller (1990b).

23 An alternative structural description would involve an incorporation structure with the verb *take* incorporating the object *knife*, with the incorporating structure concatenated with the verb *cut*. This possibility, suggested by Jerrold Sadock, can be confirmed or denied on empirical grounds, based on the availablity of this structure to appear with modifiers (adjectives or determiners) of the noun *knife*. Unfortunately, my access to data from Baral is limited to a very brief corpus in Olson cited in Crowley(1987).

24 It is interesting to compare this representation with the analysis of Tamil proposed in Nagarajan (this volume).

25 What those factors are remains a matter which needs to be investigated, although perhaps Dryer's paper contains further ideas.

26 Mark Baker (p.c. April 1990) suggests that compounding might be a better explanation than incorporation, but given the productive nature of this serialization in Khmer I find this an unacceptable solution.

27 This is a typical example of an all-too-common linguistic practice. Competing forms or dialectal variants exist in many language,. and linguistic theory should be able to explain all such variants. Thus to suggest that SrananA is somehow abnormal or no longer productive does not remove the obligation to explain the principles of that form of the language.

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# Parataxis in White Hmong

Elizabeth Riddle
Ball State University

## 1. Introduction

Verb serialization has been defined in various ways. The only points on which most linguists seem to agree are that it involves a concatenation of two or more verbs, sometimes sharing an object, and that there is no marking of subordination or coordination. One question on which linguists differ is whether a concatenation representing more than one action, event, assertion, or proposition should be considered a case of verb serialization or not, although it is generally agreed that if there is more than one action, they are closely related in some (often undefined) sense.[1] Linguists writing on Chinese (eg. Li and Thompson 1981, Hansell 1987) and on Southeast Asian languages, (e.g. Matisoff 1969, 1973 on Lahu, Thepkanjana 1986 on Thai, and Goral 1986, on five SEA languages) generally tend to categorize some concatenations of verbs representing two or more events as serialization. Stahlke (1970) also considers both the single and multiple event types to be cases of serialization in West African Yoruba and Yatye. In his discussion of serialization in Alamblak, a Papuan language, in terms of a continuum from phrase-like to word-like, Bruce (1988) claims that the actions or events represented by serialized verbs are perceived as closely connected parts of an overall event. Sebba (1987) discusses serialization in the creole language Sranan as well as other languages and distinguishes between coordinating serial constructions arising from VP coordination and which represent more than one action, and subordinating serial constructions, which represent a single action but which may involve several motions. Noonan (1985) distinguishes serial constructions, which he claims represent single assertions, from parataxis, which represent more than one assertion. Baker (1989: 514) concentrates on a narrow class which he calls 'serial verb construction proper,' excluding 'instances of veiled coordinations, embedded clauses, PPs, adverbs, or particles.'

A basic problem in defining serialization is thus that there are many semantically distinguishable types which exhibit the same or very similar surface patterns. In his detailed treatment of verb concatenation in Lahu, Matisoff (1969: 71) observes that serial verbs (which he calls 'versatile verbs') 'serve to provide in a uniform surface way the sort of information that in the surface grammar of languages like English is handled by a formally disparate aray of subordinating devices...' Sebba (1987) poses the question: why do coordinating and subordinating serial constructions tend to occur together in languages when their phrase structure origins are (he argues) so different?

In this paper I look at verb serialization broadly defined as well as other forms of parataxis to try to understand the basis for this commonality of surface patterning. Many writers on serialization have been concerned with narrowing down the definition of serial constructions and differentiating types of verbal concatenations. I consider the phenomenon

76

from the opposite point of view and suggest that looking at different types of parataxis can give us some insight into the nature of verb serialization in its narrower senses. To look into this question I take White Hmong as my case study. White Hmong is an isolating Austro-Tai* language in which verb concatenation is a very important pattern of clause organization.

## 2. Serial constructions in Hmong

This section presents a brief overview of some of the typical forms and functions of serial constructions in Hmong. Consider examples (1-3).* In (1) the second verb in the series represents direction of movement, and in (2) a source. (See Li et al. 1986 for a discussion of such serial constructions in Green Hmong, a closely related dialect.) In (3) the first verb plus object has a instrumental sense.

(1) Nws ua luam dej dhau tus dej lawm.
3SG swim cross-over CL river PERF

'S/he swam across the river.'

(2) ...peb yawg hlob Vaj Pov tau khiav tawm teb chaws
we grandfather elder Vaj Pov attain run leave country

'...our leader Vaj Pov fled the country.'
(Fuller 1985: 225, with amended gloss, translaton)

(3) Tus neeg caum nqaij tau xuas phom tua tus noog.
CL hunter attain grasp gun kill CL bird

'The hunter killed the bird with a gun.'
(adapted from Owensby 1986: 239)

These examples illustrate types of what Foley and Van Valin (1984) call the valence-increasing function of serialization, in that the presence of an 'extra' verb permits inclusion of another nominal. The existence of this valence-increasing property does not mean that such serial verbs can only represent single actions, however. (See Riddle to appear for a fuller discussion of this point.) In fact, in the appropriate contexts, serial verbs may be independently questioned and interpreted as representing separate actions, albeit related in a single episode. This is in spite of the fact that there is no non-serial structure which could represent the notions of direction, source, and instrument. For example, either verb in example (1) can be questioned, as shown in (4) and (5):

(4) Nws puas ua luam dej dhau lawm?
3SG Q swim cross-over PERF

'Will s/he swim across?'

(5) Nws ua luam dej puas dhau lawm?
3SG swim Q cross-over PERF

'Will s/he swim (all the way) across?

In example (4) the primary focus of the question is whether the general event of swimming took place. In (5) there is more emphasis on questioning whether the person will make it all the way to the other side or not.

Even more interesting is example (6), which is ambiguous between a one-action and a two-action interpretation:

(6) Nws txiav nroj pov tseg.
3SG cut weed throw abandon

'S/he cut down the weeds.'

'S/he cut down the weeds and threw them away.'
(Johnson 1981: 19)

Another function of verb serialization is to express aspect, as in (7), where the second verb indicates continuation, augmented by the modifer ntxiv 'more'.

(7) Ntaj piav mus ntxiv tias; '...'
Ntaj explain go more that

'Ntaj explained further that... '
(Lis 1986: 6)

An impressive, but by no means unusual example of the extent to which verbs can be strung together in Hmong is given in (8), where there is a series of six verbs sharing the same subject:

(8) Yam zoo tshaj plaws mas, nej yuav tsum mus nrhiav
thing good most TOP 2PL must go look-for

nug xyuas saib luag muaj kev pab hom dabtsi nyob ncig
ask visit see others have way help kind what be-at around

ib cheeb tsam ntawm nej.
environs at 2PL

'The best thing to do is for you to find people who live in your neighborhood who can help you with different things.'
(Thoj 1981: preface)

Hmong also has shared object serials as discussed by Baker (1989), among others, as in (8), where luag 'others' is the shared object of four verbs. Another example is given in (9), where koj 'you' is the object of both muab 'take' and thawb 'push'.

(9) Ib ntsis pw ces kuv mam muab koj thawb rau tom ntug.
one moment sleep then 1SG will take 2SG push to at edge

'As soon as you're asleep I'll push you to the edge.'
(Lis 1986: 9)

In examples (1-9) the serial verbs all have the same subjects in each sentence. This has been claimed by some to be a defining feature of serial constructions (e.g. Noonan 1985), although other linguists recognize concatenations with different subjects as instances of serialization. When this is the case, typically the subject of the following verb is the object of the preceding. An example of this in Hmong is given in (10), where the object of the second verb, tom 'bite', which is not realized on the surface and is shared with the first verb, muab 'take', is also the subject of the stative verb tuag 'be dead', indicating the result of the biting.

(10) ...ces txawm muab huab tais tom tuag lawm.
then thereupon take prince bite be-dead PERF

'...then [the dogs] killed the prince (by biting him)'
(Johnson 1981: 13)

This is a common type of serialization. Notice that this sentence has what Thepkanjana (1986) calls 'layers' of serialization. That is, one layer of serialization is formed by the first two verbs which share a subject and object, and a second with the third verb expressing the resulting state and having as its subject the object of the preceding verbs.

## 3. Motivation for serialization

One major function of serialization, noted above, is valence expansion. Sebba (1987) claims that the other major function of serialization is lexicon expansion. Foley (1986) points out that some Papuan languages have comparatively few verb stems and that serialization compensates for this lack. Hmong has a very restricted morpheme structure which limits the number of possible non-compounded words, and in general, most free morphemes are monosyllabic. This might be proposed as a reason for why a serial construction is used in example (11) to express the meaning of 'show':

(11) Nws...muab daim ntawv uas muaj nws tus niam hluas
3SG take CL paper that have 3SG CL younger-sister

qhov chaw nyob rau tus poj niam ntawd saib
place live to CL woman that see

'She showed the paper with her younger sister's address on it to that woman.'
(Thoj 1981: 18)

However, there are three other verbs which can be used in different specific situations which would often be translated by the general verb 'show' in English.

Thus Hmong has instances of verbal concatenation which appear not to fulfill either the valence or lexicon expansion functions. For example, consider again example (8), which has a series of six verbs. Why are there so many verbs in this sentence? Valence expansion is not a factor, since the same NP luag 'others' could appear as the object of any of the four verbs meaning 'look for', 'ask', 'visit' or 'see' in independent sentences. Lexicon expansion also seems irrelevant, since it is clear that in this instance Hmong has plenty of relevant verbs, and a nonserializing language such as English does not seem to have a particular verb lacking in Hmong which would express more succinctly even part of this series. Foley and Van Valin (1984) claim that serialization is used in most languages mainly to construct complex verb units expressing composite semantic notions. This explanation has some intuitive appeal here but is very slippery, since it is difficult to define what is meant by composite. I suspect that it is more generally applicable to languages in which there are nonserial alternatives for expressing the same basic propositions, thus affording representation as relatively more or relatively less composite in the speaker's point of view. Hmong, on the other hand, generally lacks such alternatives, and some concatenations seem much less composite than others. Also, none of these factors gives us any insight into why other forms of parataxis are often very common in serializing languages such as Hmong as well.

I suggest that there is an additional factor motivating the very strong preference of Hmong for serialization. This is that it is a stylistic norm in Hmong (Mottin 1978, Johns and Strecker 1987), as in other languages of the region, (Matisoff 1973) to repeat words and phrases and paratactically string together synonymous or related words. These are called 'elaborate expressions' (Haas 1964). Elaboration occurs both as a productive pattern in everyday Hmong conversation and in fixed expressions in casual and elegant speech. Example (12) is taken from an oral narrative and is an example of a productive pattern of elaboration.

(12) ...tso kwv tso tij
relinquish younger-brother relinquish older-brother

tso txiv tseg
relinquish father abandon

'...leave one's relatives behind'
(Fuller 1985: 232-3, with amended gloss)

The verb tso 'relinquish' or 'leave,' which occurs three times, is part of a serial construction formed with tseg 'abandon', and the elements are joined paratactically. Both the repetition of the verb and the use of three NPs referring to specific relatives to include all relatives emphasize the sadness of the refugee's situation.

Examples (13-15) are some typical fixed elaborate expressions:

(13) Khwv iab khwv daw
toil bitter toil salty

'arduous toil'
(Johns and Strecker 1987: 106)

(14) Kav teb kav chaw
rule land rule place

'to rule a country'
(Johns and Strecker 1987: 106)

(15) tuag tshaib tuag nqhis
*die to hunger die to thirst*

'starve to death'
(Mottin 1978: 198, my translation from the French)

In each of the above cases a verb is repeated and the elements of the expression are simply juxtaposed. This parallels the concatenation of verbs in serial constructions. (See Johns and Strecker 1987 and Ratliff 1986a, b for a more complete discussion of the types and sources of elaborate expressions in Hmong.)

Reduplication for emphasis is also common in Hmong, as in example (16):

(16) Koj txawj txawj ua paj ntaub.
2SG know know do embroidery

'You really know how to do embroidery'
(i.e. you embroider very well)

Again, the surface pattern is that of simple concatenation. I am suggesting that an important reason for why Hmong strings together verbs as in example (8) is this general tendency to form lexically elaborate utterances, and it does so paratactically. Each verb contributes a particular sense lacking in another given verb, and thus elaborates on the meanings of the others, making the characterization of a particular event more precise, but the problem is not lack of lexical items per se. In many of the examples where Hmong has a serial construction, the words used to translate it into English are equally general or equally specific in meaning. For example, in instrumental constructions, Hmong can have any one of three or four verbs with different specific lexical meanings similar to the differences among take, grasp, hold, and use in English. The choice depends on the particular context. In other words, I claim that there is a connection between serialization and the tendency to elaborate utterances with additional words, resulting in an overt specification of subparts of an overall event or state of affairs which is not found to the same degree in a language like English. While it is true that in a number of cases (particularly with motion verbs) the meaning expressed by a single verb in English (e.g. take including motion as well as grasping or holding) is divided among two words in Hmong (e.g. muab 'take in hand' and mus 'go'), this is not true in other instances. In many examples the English translations simply leave unspecified some of the subparts of a situation overtly described in Hmong, even though equally general lexical items exist in Hmong as well.

Another example of a verb serialization providing elaboration of meaning is given in (17). This sentence is from a novel and is said by a father to his young son who is afraid to leave the area where his father is plowing and go to the edge of the field to play.

(17) Kuv mam zov ntsia koj mus.
1SG will guard watch 2SG go

'I'll watch you go.'
(Lis 1986: 3)

On the literal level, *ntsia* could be used alone to mean 'watch' as in the English translation; however, this would not overtly specify the component of the situation in which the father is taking care of the son by watching; therefore, the verb *zov* expressing this idea is included as well. It is not that in English only one word lexicalizes the meaning of two in Hmong, but that the English sentence is vague in comparison to the Hmong sentence.

Consider also example (18), where the object of *rau* 'to' is the subject of *nloog* 'listen'. The verb meaning 'listen' is obligatorily present and does not have a specifically purpose sense. This might not be considered a case of verb serialization by some linguists since a prepositional phrase comes between the first and second verbs. However, *nloog* 'listen' is paratactically joined to the rest of the sentence and its subject is also the object of *rau* 'to and the indirect object of the first verb.*

(18) Nws nyeem ntawv rau kuv niam nloog.
3SG read book to 1SG mother listen

'S/he's reading to my mother.'
(Strecker and Vang 1986: 14)

Unlike in English, one cannot just say the equivalent of 'read to my mother' in Hmong. It is necessary to overtly specify the act performed by the referent of the object of *rau* 'to' here. I suggest that this is a form of elaboration.

To summarize, lexical elaboration in paratactic form is a very common rhetorical device in Hmong, and some serial constructions appear to have elaboration as their primary function.

## 4. Other forms of parataxis

Paralleling serialization, which is a form of verb phrase parataxis, is full clause parataxis, as in (19). The first clause, which ends with *los* 'come' and has an internal serial structure, is joined paratactically to the next part of the sentence, which also exhibits serialization, and is paratactically joined to the last part of the sentence starting with *tsis tau noj* 'not get eat'. There are no markers of subordination or coordination.

(19) Leej twg txawj txuag tau me ntsis nyiaj los nws coj
someone able preserve get little money come 3SG take

mus muas tsis tau noj tsis tau hnav.
go buy not get eat not get wear

'If anyone manages to save a little money and goes to buy something, s/he won't get anything to eat or wear.'
(*Haiv Hmoob* staff 1987: 46)

Time adverbials are usually complex NPs simply juxtaposed to the rest of the sentence, as in (20), where the adverbial is introduced by the word *thaum*, often translated as 'when' or 'while' but which in Hmong is a noun meaning 'time' and is followed by a relative clause.

(20) Koj yuav tsum tsis txhob tsav lum fais thaum uas tseem
2SG must not drive car time that still

noj cov tshuav no.
eat GRP medicine this

'You should not drive while taking this medicine.'
(Xiong, 1980: 21)

Another form for time adverbials is that of an existential clause which could syntactically stand alone and is paratactic to the main clause, as in (21):

(21) Muaj ib taig kis nws tuaj.
have 1 morning 3SG come

'One morning s/he came'.

Hmong also forms possessives by simply juxtaposing the possessor NP before the possessed NP, most often with the latter's classifier, but in a few cases (primarily for some kinship terms) without. This is illustrated in (22) and (23):

(22) Xia lub tsev
Xia CL house

'Xia's house'

(23) Kuv niam
1SG mother

'my mother'

Topic NPs of the 'double subject' type are another type of parataxis, as shown in (24):

(24) Txoj kev kawm ntawv nyob teb chaws no kuv cov me nyuam
CL way study be-at country this 1SG GRP child

puav leej yog kawm zoo rau qhov...
all person be learn good because

'Studying in this country, all my children are learning very well because...
(Fuller 1985: 161-2, with amended gloss, translation)

Here a topic NP is juxtaposed to a subject NP with no indication of subordination or coordination.

As can be seen from the examples discussed so far, Hmong has a very strong tendency to string items together paratactically. It does have several complementizers which signal subordinate relationships, but their significance as subordinators is limited in some ways. For example, the us of the subordinating complementizers *tias* and *hais tias* is more limited tha English *that* and *to* are. Moreover, *tias* has a quotative use (Li 1988) and the *hais* of *hais tias* is historically derived from a still existing homophonous verb of saying. Although now it is fairly grammaticized as part of the complementizer (Jaisser 1984), it is still transparently related to the primary verb of saying in Hmong and its position in the sentence is that of a serial verb. Another complementizer, *kom*, used primarily to show causation, also occurs as a verb in a closely related meaning. Finally, there is one invariant relative clause marker which is often deleted and the resulting string ends up in a paratactic relationship to the adjacent clause, appearing to form a layer of serialization. This can be seen in example 8. Here *luag* 'others' is the object of the serialized verb *saib* 'see' and the subject of *muaj* 'have,' which is the verb of a (semantically) a relative clause. (See Riddle 1989 for a discussion of the conditions on the occurrence of the relative marker.) In short, there are very few words which clearly function as subordinating conjunctions in Hmong.

## 5. Target structure

Based on the prevalence of parataxis at so many levels of syntactic structure, I suggest that Hmong can be described as having a paratactic surface target structure. The concept of target structure has appeared in various guises in linguistic theory, but has been most clearly articulated for syntax by Green (1974, 1980) and Haiman (1974). It is related to the notion of phonological conspiracy as discussed by Kisseberth (1970), among others. A target structure arises when several distinct rules 'conspire' to produce the same result in surface structure. For example, Green (1980) claims that there are two target inversion structures in English derived from a large variety of underlying structures. Haiman argues that the verb second position in German main clauses is a target structure. What I am proposing is that Hmong has a preferred pattern of syntactic organization for the language as a whole, i.e. parataxis. Serial verb constructions, whether narrowly or broadly defined, are a reflection of the paratactic target structure, and this surface pattern in effect neutralizes semantically distinct verb concatenation structures.

## Notes

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1. It should be noted here that it is very difficult to distinguish numbers of actions or events in any clearcut way.

2. The affiliation of Hmong is disputed, with some linguists classifying it as Sino-Tibetan. White Hmong is one of two mutually intelligible varieties spoken in Laos and Thailand. Other more distantly related Hmong languages are spoken in China and Vietnam. Henceforth I will refer to the variety discussed in this paper simply as Hmong.

3. Standard White Hmong orthography is used. Final consonants or lack thereof indicate tones, as follows: b = high level; j = high falling; Ø = mid level; s = low level; v = low rising; m = low checked; g = breathy; d = rising and lower than v. For the most part, Hmong is written with a space between each syllable. The following abbreviations are used: SG = singular; PL = plural; CL = classifier; GRP = group classifier; TOP = topic marker; PERF = perfective; COMP = complementizer; Q = question marker.

4. *Rau* is glossed here as a preposition but it is homophonous with a main verb meaning 'to place,' and some of the contexts where it is used seem vague between the verbal and prepositional meanings. It also occurs in examples 9 and 11. See Lord (1973) for a diachronic perspective on this phenomenon, and Li and Thompson (1981) fo a discussion of coverbs in Chinese as representing a separate word class intermediate between verbs and prepositions.

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# On Arguing for Serial Verbs (with Particular Reference to Modern Greek)

Brian D. Joseph
The Ohio State University

## 1. Introduction

As is well-known from the literature on the serialization of verbs and on serial verbs,[1] there is little agreement as to just how the phenomenon of serial verbs is to be defined, though there is some general agreement on the grosser aspects of this phenomenon. Clearly, however, any definitional problems will necessarily have a serious impact on how one might decide, for any given candidate construction in a given language, whether or not it is an instance of a serial verb construction. Without clear guidelines, such a decision is difficult, if not impossible.

Related to this matter of definition is another methodological problem. In particular, even when a language presents some indications pointing to the possible presence of serial verbs, the question must be considered of how much evidence is needed to firmly establish this analysis. That is, the point at which the indications are strong enough to warrant labelling a given construction as a serial verb construction is not at all obvious.

A test case for this issue is provided by Modern Greek. Greek presents a number of candidates for serial verb status, but an evaluation of these constructions, essentially via a process of elimination according to a few of the generally agreed upon characteristics of serial verbs, leads to results that are at best ambiguous.

## 2. Some Candidate Constructions in Greek and Their Evaluation as Serial Verbs

In the broadest sense, any sequence of verbs is potentially a serial verb construction; at the very least, certainly, such sequences provide a starting point for evaluation. Under such a liberal view of serialization, Modern Greek presents several possibilities, though ultimately there is cause to reject the identification of most of these as serial verb constructions, as the discussion below makes clear.

In particular, if a somewhat more restrictive definition of serial verbs is adopted, then one can begin to make some sense out of the range of possibilities that Greek provides. As a minimally restrictive--but nonetheless useful--definition for serial verbs, one that most linguists seem to have agreed upon, the following is adopted: a serial verb construction must be a sequence of two uninterrupted verb phrases, preferably with a minimum of inflection on at least one of the two (presumably the nonhead), that represent a single event.[2]

Such a definition immediately rules out one possible candidate given in (1), consisting of a verb plus an active participle (also known as the gerundive):

(1) o jánis éfije jelóndas
the-John/NOM left/3SG laughing/ACT.PPL

'John left laughing(ly)'.

Even though éfije jelóndas is a verb-verb sequence with minimal inflection on the second verb (which has an invariant form, as the gerundive is always with the suffix -ondas regardless of the person and number of its implicit subject and the tense of the main verb), it seems clearly to represent two events, the event of laughing and the event of leaving. Moreover, the two verbal forms in (1) need not occur juxtaposed, since éfije o jánis jelóndas is an acceptable word-order variant of (1), so that (1) fails on the criterion of uninterruptedness. These properties, then, indicate that (1) may be ruled out as an instance of a serial verb construction.

Similar considerations lead to concatenated imperatives, as in (2), being disqualified as serial verbs:

(2) trékse, vrés mu líɣo aláti
run/IMPV.SG find/IMPV.SG me/GEN little salt

'Run (and) find me a little salt'.

Again, two separate events are being referred to, the event of running and the event of finding. It is also significant that these concatenated imperatives are separated by an intonational break--a 'comma pause'--and thus perhaps do not qualify as serial verbs because of the criterion of uninterruptedness. The relevance of this point becomes apparent later on in the discussion of other imperatival sequences in relation to the question of serial verb constructions in Greek.

Another potential candidate for serial verb status is the verb-verb combination exemplified by the forms in (3):

(3) a. aniɣoklíno 'I open-and-close' (2SG: aniɣoklínis, 3SG: aniɣoklíni, etc.)
[cf. aníɣo 'I open', klíno 'I close']
b. pijenoérxome 'I go-and-come' (2SG: pijenoérxese, 3SG: pijenoérxete, etc.)
[cf. pijéno 'I go', érxome 'I come']

These forms, however, are undoubtedly compounds, more specifically coordinative compounds, and not serial verbs. Their compound status is shown by the fact that they have only one accent and thus constitute a single accentual unit. In addition, only the second element shows any inflection (thus 2SG pijenoérxese, not *pijenisérxese with the 2SG form pijénis 'you go'), and the -o- that links the two verb stems is the element typically found in such coordinative compounds. Thus, pijenoérxome and other forms like it are verbal counterparts to such nominal compounds as andrójino 'couple', literally, 'man-woman', made from the stems andra- 'man' and jin(ek)- 'woman' with -o- as the linking vowel, with but a single accent, and with an uninflected first member (cf. plural andrójina 'couples', not *andrésjina 'couple' with a plural desinence on the first member). As compounds, therefore, pijenoérxome, etc. do not qualify as serial verbs on syntactic grounds since they are neither linked verbs nor linked verb phrases, but instead are only linked lexical verb stems forming a single compound word.

Next to be considered is the perfect tense formation consisting of an inflected form of éxo 'I have' plus an invariant apparently nonfinite form sometimes called a 'perfective participle'.[3] A few representative forms from some of the 'tenses' in the perfect system (omitting, e.g., various types of future perfects) are given in (4) for the verb xtipó:

(4) a. PRES.PERF.ACT: éxo xtipisi 'I have hit', éxis xtipisi 'you have hit', etc.
b. PAST.PERF.ACT: ixa xtipisi 'I had hit', ixes xtipisi 'you had hit', etc.
c. PRES.PERF.PASS: éxo xtipiθi 'I have been hit', éxis xtipiθi 'you have been hit', etc.
d. PAST.PERF.PASS: ixa xtipiθi 'I had been hit', ixes xtipiθi 'you had been hit', etc.

These forms seemingly refer to a single event, and thus possibly involve serialization. Moreover, they are auxiliary-like, apparently parallel in structure to the English perfect, and it is not out of the question that auxiliation should be treated as a type of serialization.[4]

Still, the criterion of uninterruptedness speaks against a serial verb analysis, for the two parts of the perfect can be interrupted, most usually by verb phrase material (e.g. an adverb like iði 'already'), which in itself is not problematic for the serialization hypothesis, but also marginally by elements not in the verb phrase, e.g. subjects; (5), for instance, is possible, though not preferred:

(5) ?éxi o jánis ɣrápsi to ɣráma
has/3SG the-John/NOM write/PERFVE.PPL the-letter

'John has written the letter'.

Moreover, even if auxiliation is subsumed under serialization, there is one difference between the English perfect and that of Greek that might argue against an auxiliary analysis, namely the fact that there are no other clear auxiliaries in Greek. The only two candidates for auxiliary status are the verb éxo 'have' in a variant active perfect formation and the verb íme 'be' in a variant passive perfect formation, both involving the so-called mediopassive participle (which is probably best treated as a derived adjective--see Smirniotopoulos 1990 for the most recent discussion of this form) as illustrated in (6a) and (6b) respectively with the verb ɣráfo 'write':

(6) a. éxo ɣraméno to ɣráma
have/1SG write/PERF.PPL the-letter

'I have written the letter / I have the letter written'

b. to ɣrâma íne ɣraméno
the-letter is/3SG write/PERF.PPL

'The letter has been written / The letter is written'.

As the glosses in (6) indicate, however, these variant formations admit of an analysis other than auxiliation, since (6a) could be 'have' with a small-clause complement and (6b) could be simply a copular structure with a deverbal adjective in the predicate.

The perfect could of course represent an otherwise unparalleled type of verb phrase, since it is clear that not everything that is required in a complete and detailed description of language can find a parallel elsewhere in the account. Even in that case, however, the perfect need not involve auxiliation, for it could simply be a type of complementation, though admittedly, the combination of éxo with a nonfinite form in the perfect would be a unique type of complementation: Greek complementation typically requires a fully inflected and finite verb, most usually with an overt complementizer (pu, pos, or óti, all roughly parallel to English that), or a verb introduced by the subjunctive marker na (about which, see section 3).[5]

Auxiliation and complementation, however, are relatively well-understood syntactic phenomena, whereas serialization seems to be a more marked phenomenon.[6] Given the possibility of other analyses, i.e. auxiliation, whether structurally unparalleled or not, or anomalous complementation, overall it would seem best to hold off calling (4) an construction type that has a marked status cross-linguistically, i.e. a serial verb construction, until stronger indications are found that Greek does in fact have serialization.

## 3. An extension of (4)

At this point, a small digression concerning complementation and clause-types in Greek is in order, for making a few reasonably well-motivated assumptions leads to some potentially relevant results. The clause-types that present the most interest in this regard are those introduced by the element na, which may be embedded, as in (7a-b), or may determine matrix clauses themselves, as in (7c):

(7) a. arxízo na δjavázo to vivlio
begin/1SG na read/1SG the-book

'I begin to read the book'

b. boró na δjaváso to vivlío
can/1SG na read/1SG the-book

'I can read the book'

c. na δjaváso to vivlio mu tóra?
na read/1SG the-book my now

'Might I read my book now?'.

At first, it might seem that these are irrelevant for a consideration of serialization in Greek, since the combination of a verb such as arxizo 'begin' with a complement introduced by na would seemingly violate the usual assumption that serial verb constructions do not have a complementizer or subordinating marker of any sort. However, the best analysis for na in conjunction with a verb, as argued by Veloudis and Philippaki-Warburton 1983 and by Philippaki-Warburton and Veloudis 1984 is that na is not a complementizer, but rather that embedded na-clauses occur with a zero-complementizer and the na itself is a marker of subjunctive mood.[7]

Moreover, na is a bound-element, and can only be separated from the verb by other bound, dependent elements such as the subjunctive negator min or the weak pronominal object affixes. However, it is not entirely clear whether na is an affixal marker of mood, i.e. part of the morphology of the verb or a clitic dependent, i.e. a syntactically generated element that comes to be phonologically dependent on its host verb. If it is an affix, e.g. a mood affix, then the type of (7a) and (7b) would involve VERB + VERB combinations with no intervening complementizers or subordinators where both parts are inflected. While it is interesting in this regard to note the existence of serialization with finite verbs in Saramaccan (so Byrne 1987; see also Schiller 1990: Chapter 2), the single-event semantic criterion discussed above would preclude the treatment of such VERB + VERB combinations as a type of serialization.

The clitic analysis is perhaps to be preferred, for it allows for a straightforward generalization regarding the position of negative affixes in the Greek verb (as the leftmost affixes);[8] in that case, (7a) and (7b) and sentences like them need not be considered to be finite serialization. However, other facts suggest that a different type of serialization might be operative here. What is most relevant here is that it may well be that na is itself a verb, in that some analysts have related it synchronically to the deictic element ná 'Here is!' (see Christides

1987), which is arguably a verb and more specifically an imperative in that it takes postposed weak pronominal object affixes just like imperatival verbs, and in some dialects can take the plural imperative ending -te:[9]

(8) a. na! 'Here!'
b. na to aeropláno! 'Here's the airplane!'
c. na to! 'Here it is!' / *to ná! (compare pés to 'Say it!' / *to pés)
d. náte 'Here (you all)!' (compare éla 'come!' (SG) vs. eláte 'come! (PL)'.

If, as implicit in Christides' account, na the subjunctive marker is a verb at some level--and thus perhaps actually an auxiliary verb, not unlike should in modern English--then the analysis of the sentences in (7) becomes relevant for a consideration of verb serialization, for they are then VERB-VERB sequences and actually in (7a) and (7b) are VERB-VERB-VERB sequences, where the middle verb is apparently uninflected while the outer verbs are inflected.

Admittedly, (7a) could be excluded as involving a verb + complement structure, as could (7b) also, though it comes closer to providing a 'single event' type of semantics than (7a) does. Example (7c), however, seems really to involve the representation of a single semantic event, so that under the verbal analysis of the subjunctive marker na, (7c) could well be a serial verb construction. One might of course claim that modality of the sort expressed in (7c) would point to an auxiliary verb structure, and, as noted above, auxiliation does not have an entirely clear status with regard to serialization but it is very likely to be a distinct syntactic phenomenon from serialization; at the very least, though, an auxiliary analysis is undoubtedly the one that most linguists would opt for and would be most comfortable with, even if at this point it is arrived at more by stipulation than by analytic necessity.

Here, though, a criterion suggested by Seuren 1990 and Schiller 1990 concerning negation in serialization may be useful here in deciding the question and making the desired answer less stipulative. Schiller has claimed that "the marker of negation [in serial verb constructions] is generally attached to the syntactic head of the entire sentence, and cannot be attached to the head of the syntactically subordinate clause" (Chapter 2), and that this occurs regardless of the semantic scope of the negation. It would seem then that sentences of the type in (7) do not involve serialization, since-- unless this is a case, for a language like Greek, of noncanonical serialization with the second verb as head, not the first--the negation affix min can occur with the verb after na in all three structures:

(9) a. arxizo na min káno tipote
begin/1SG na NEG do/1SG nothing

'I am beginning not to do anything'

b. boró na min kano tipote
can/1SG na NEG do/1SG nothing

'I am able to do nothing'

c. na min kano tipote?
na NEG do/1SG nothing

'Shall I not do anything?'.

In a sense, the question posed by na in these constructions is parallel to that raised by the common occurrence of the verb 'say' as a complementizer in serializing languages (so Schiller 1990: Chapter 2, p. 38, n. 14), and thus perhaps a further reason to exclude the na constructions is that what follows na can be analyzed as a whole sentence, not just a VERB or VERB PHRASE. Indeed, subjects can occur with the verb:

(10) arxizo na lino eγó to próvlima
begin/1SG na solve/1SG I/N0M the-problem

'I am beginning (myself) to solve the problem'.

Still, what is perhaps most significant here is that this question can be addressed without having to say that this is a serial verb construction, concrete testimony to the utility of carefully defining the properties of this construction-type.

## 4. A Further VERB-VERB Candidate

Once these various VERB-VERB candidates have been sifted and ultimately disqualified as serial verbs, one further construction is left that constitutes a possible serialization candidate, namely the imperatival sequence illustrated in (11):

(11) éla pés mu
come/SG.IMPV tell/SG.IMPV me/GEN

'C'mon tell me!'.

This sequence consists of the imperative of érxome 'I come', in (11) the singular form éla, followed immediately by another imperative, here the singular imperative of léγo 'I say, tell'; plural forms are also possible, e.g. eláte péste mu 'C'mon (you/PL) tell me!'.

It is not obvious just what the analysis of this construction should be. On the one hand, it appears to be merely another instance of the concatenated imperative construction discussed above (and exemplified in (2)), but there are two key differences: first, there is no pause in éla pés mu, no intonational break between the two imperatives, and second, a single event only is being referred to in (11), whereas two separate events were represented in (2). Thus éla in (11) does not have a concrete motion or directional sense but rather serves more of an exhortative function, as represented crudely in the translation by 'C'mon', focussing the hearer on the primary event, that of telling (embodied in pés). Moreover, as would be expected in serialization, there is no complementizer or subordination marker at all, rather just the two bare imperatives.

Another potentially relevant feature concerns the inflection on the verbs in (11). As already noted, both verbs can be either singular or plural, in the imperatival form, and the usual case is for both to be plural or for both to be singular, as in the two examples already presented. It is also possible for there to be disagreement between the two verbs, in two ways. First, éla, the ostensible singular form, can cooccur with a plural imperative, i.e. éla péste mu is possible. Second, éla can cooccur with a first person plural imperatival form, which in Greek is found as a separate form only with one verb, páme 'let's go',[10] as in éla páme mazí 'C'mon let's go together'. While it has sometimes been suggested that serial verbs must have the same subject (so Foley and Olson 1985), Schiller (1990: Chapter 2) has brought together examples of apparent serial verb constructions in several languages in which there is no shared subject, and he labels the"same subject constraint" as among the "tests [for serialization] that fail". Thus éla constructions such as éla péste mu or éla páme mazí do not argue against a serial verb analysis in and of themselves.

Included in the possibilities for inflection in this construction is negation, taking negation in Greek to be affixal in nature and thus a matter of inflectional morphology.[11] Thus it is possible to have as the second part of the construction after éla the negative imperative, expressed with the negator mi(n) and a finite form of the verb, e.g. éla min klés 'C'mon don't cry!'.

There are essentially two difficulties, however, with taking this construction to be a matter of verb serialization. First, one might question whether éla pés mu really involves two verbs; that is, given (especially) that nonagreement is possible, as in éla péste mu, one might be inclined to say that éla is nothing more than a particle, and that the construction therefore does not involve a sequence of verbs. Indeed, Baker (1989: 539n. 18) suggests that claiming that certain apparent serial verbs in Yoruba 'have lost their verbal status ... having become grammatical particles' is a way to explain a theoretical embarrassment they pose for the usual distinction made between arguments and adjuncts.

The claim has been made, though, by Zwicky 1985, that linguistic theory should not tolerate a lexical category of 'particle'[12] and that all words should be assigned to a lexical/syntactic category. Under such a view, which is adopted here, éla has to have a lexical category, and it would seem that the most suitable category is that of verb, given the formal identity of éla with the imperative singular of the verb érxome and the fact that éla can have a concrete directional sense of 'Come (here)!, though not in this construction.

A second potential problem is that this construction seems somewhat isolated in the overall grammar of Greek, not being found with a great many verbs and not with a great many verb forms, being restricted basically to having only imperatives as the first member. This fact is potentially problematic, since some linguists have taken the view that productivity and the extent to which potential serial constructions occur in a language is a deciding factor in the ultimate identification of a construction as an instance of serialization; Baker (1989: 519n. 3), for instance, has implicitly rejected the English go get construction as serialization for this reason, referring to it only as a "serial-like construction" of American English.

With regard to the éla + imperative construction in Greek, while it is productive as far as combinations with éla itself is concerned, it is true that this construction is pretty much limited to éla, as far as obvious verbs of the language are concerned. Thus by Baker's implicit criterion, the Greek construction would only be "serial-like" and not true serialization. However, the éla + imperative construction is not totally isolated (nor is the English go get construction, of course), since at least one other construction, as well possibly as others, seems parallel to the one under consideration, namely the occurrence of imperatives with an element ja preceding them, as in the following (where 'Hey' in the translation is an imperfect approximation of the force of ja):

(12) a. já kíta
ja look/IMPV.SG

'(Hey,) (you/SG) look!'

b. já kitákste
ja look/IMPV.PL

'(Hey,) (you/PL) look!'

What makes this imperatival usage relevant here is the fact that já is plausibly taken as a verb itself. In particular, já independently can take noun phrase arguments, as in (13a), and verbal complements with na, as in (13b):

(13) a. já mja stiɣmi
ja one-moment

'Wait a moment!'

b. ja na ðume
ja SUBJUNC see/1PL

'Let's see!'.

Moreover, while iá does show some affixal properties, all the affix-like features it shows are ones that follow from serialization as well; for example, strict ordering before a verb and not after could be a result of being part of a serial verb construction, and the selectivity it shows is basically such that it is restricted to occurring with imperatives, i.e. with the one verb type that offers, via éla pés mu, the appearance of seriation.

It is possible also that there are further elements that can occur in the Greek serial imperatival construction that give it a broader overall distribution. For example, as suggested in Joseph 1985, imperatives preceded by the 'interjection' ánde 'come (on)! go on!', as in ánde fíje 'Go on, get out of here' (with the imperative of févɣo 'I leave'), and the lexicalized expression káne (ke líɣo) kráti 'Have (a little) restraint!',[13] may provide further examples of serial imperatives in Greek. It is worth pointing out that if the English go get construction is considered an instance of serialization, then it shows some of the same properties as the Greek putative serial verbs, in that the first verb is restricted formally to uninflected forms (imperative, infinitive, present forms other than 3SG, etc.) and lexically to just a few verbs (go, come, run, and maybe a few others).

The one troubling aspect left concerning a serialization analysis of the Greek construction under consideration is the fact that all the inflection that is found in the construction occurs with the second verb (excepting the possibility of plural eláte), and the second verb is the one that is semantically primary. Thus it would appear that the second verb is the head of the serial imperatival sequence. Greek in general seems to have Verb-Complement as its canonical order in verb phrases, e.g. the direct object typically follows the verb as do sentential clauses dependent on a verb. Schiller (1990. Chapter 2) has proposed that in canonical subordinating serial verbs constructions, "the order of the V's reflects the head-complement order of the language". In order to maintain the serial verb analysis for Greek, therefore, it would have to be admitted that this construction is not a canonical type, but then so too with regard to the English go get construction.

## 5. Conclusion

The argumentation that leads to a serial verb analysis for certain Greek sequences of imperatives, it must be admitted, is a bit tenuous. Basically, it is via a process of elimination that an argument is constructed, and via a set of parallels with an English construction that is admittedly only somewhat controversially identified as a serial verb construction itself. It is worth pointing out, however, that the numerous refinements in the notion of "serial verb" that have arisen out of the renewed interest in this construction in recent years (e.g. the work of

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Sebba, Seuren, Schiller, Zwicky, and others) are exactly what make it possible even to entertain the notion at all that the Greek construction is an instance of serialization and to try to give substantive supporting arguments.

Greek provides a test case, then, in that it at best presents only the most minimal amount of evidence bearing on the analysis of these constructions; thus, if it is possible to argue for serialization for Greek, using the various criteria alluded to in the work of Schiller and others, then it ought to be possible to argue the case for practically any language. That result, however, may not be a healthy one and so it is probably best to reject the possibility of serial verbs in Greek, and in general to guard against seeing serialization in everything; the Greek construction could just as easily be an eccentric and idiomatic type of verb complementation as an isolated different type of construction.

## Notes

*Several linguists--among them Victor Friedman, Craige Roberts, Eric Schiller, Pieter Seuren, and Arnold Zwicky--have provided comments on some of the ideas contained in this paper that proved invaluable in furthering my understanding of the issues discussed herein. In addition, Tasos Christides, Art Palacas, and Irene Philippaki-Warburton have provided important help on some crucial points of data. To all of them, I offer thanks as well as absolution from complicity in my conclusions.

1. Following the important clarification in Schiller 1990, these really should be referred to as 'serial verb phrase constructions'; nonetheless, the term 'serial verb' will be used here, as it is the most familiar designation for the construction. Schiller's several papers on serial verbs, including the paper contained in this volume, provide ample references to the relevant literature on this construction, as do the other papers found herein.

2. I realize that it is far from obvious just what constitutes a 'single event', but the notion is widely referred to in the literature on serial verbs, and thus I adhere to its use here.

3. See Joseph (1983: 77-80) for discussion of the status of this form.

4. Unless, of course, auxiliaries are taken to be a separate lexical category and not a subset of verbs. Even if auxiliaries are treated as a type of verb, auxiliation need not be reduced to serialization--a clause union analysis is possible in some languages for at least some instances of combinations that descriptively are AUX + VERB.

5. A possible exception to this claim is a sentence such as (i):

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(i) parakaliste anikste tin pórta
request/2PL.PASS open/PL.IMPV the-door/ACC

'You are requested: "Open the door"'.

It is more likely, though, that (i) represents direct speech and as such would not be true complementation.

6. As Pieter Seuren remarked during the conference at which this paper was read, serial verb constructions are 'perceptually salient', at least they were to linguists confronting West African and Carribean Creole languages; that salience is suggestive of the distinctive--and therefore marked--status that these constructions enjoy.

7. Note for instance that na can cooccur, as in (i), in relative clauses with pu, an element whose purely complementizer function is shown in (ii):

(i) psáxno énan ánθropo pú na me voiθisi
seek/1SG a-man/ACC COMP SUBJUNC me/ACC help/3SG

'I'm looking for a man that might help me'

(ii) xárika pu se iða
was-glad/1SG COMP you/ACC saw/1SG

'I am glad that I saw you'.

8. See Joseph 1990 and Joseph (forthcoming) for discussion of the status of negation in Greek.

9. See Joseph 1981 for a defense of this analysis, though in that paper I attempt to separate out the two na's (deictic na and subordinating/subjunctive na). It is usually assumed that the two na's are etymologically distinct--a position countered, to my knowledge, only in Christides 1987--but linking the two synchronically need not be precluded by the absence of an etymological connection between them.

10. For other verbs, a subjunctive form with the marker na or the more purely hortative marker as is used, e.g. na púme / as púme 'let's tell'.

11. See Joseph 1990 and Janda and Joseph 1990 for some discussion of the status of the negation markers in Greek.

12. Though see Christides 1990 for an attempt to maintain the category of 'particle'.

13. This expression is literally 'do/IMPV.SG (and a-little) hold/IMPV.SG', where *kráti* is not the synchronically regular imperative of *krató* 'I hold' but rather is a fossilized older imperative.

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# Serialization and Subordination in Gullah: Toward a Definition of Serialization

Salikoko S. Mufwene
University of Georgia

## 1. Introduction

There are about two major ways in which the phrase 'serial verb construction' (SVC), for which the term 'serialization' stands in the title, has been used in the linguistics literature at large. First is the African linguistics tradition,[1] followed by the majority of studies on SVCs in Atlantic creoles from Bendix (1972) to Byrne (1987) and Sebba (1987), passing through Jansen et al. (1978).[2] According to this, a SVC is, roughly and without the semantic aspect of the definition (disputed below), a sequence of verbs or VPs in a sentence which are interconnected by no coordinating nor subordinating marker (free or bound) and which all share the same subject.[3] Second is the Sinologist tradition according to which, as stated by Hansell (1986), SVCs 'are series of two or more VPs, sharing common arguments. . . with no overt marking of linkage' (see also Li & Thompson 1978, 1981 at least for a confirmation of the spirit of the definition).[4]

Below, using data from Gullah, I raise questions on the significance of the semantic component of particularly the Africanist definition of SVCs. I argue that the Sinologist tradition is the least arbitrary definition and probably the closest to being adequate. I defend the position that SVCs constitute a heterogeneous bag of structural and semantic phenomena, and they should be defined in strictly syntactic terms, with emphasis on the sequencing of VPs without a connector and not on structural relations. Like the semantic aspect of serialization, phrase structure, which should be allowed to vary from SVC to SVC, is relevant only to the identification of specific kinds.

Addressed below is also the question of whether serialization is coterminous with subordination, a syntactic strategy whereby a clause functions as a complement either of a verb in a higher clause or of a preposition[5] (see also Noonan 1985). I argue below that, while the distinction between serialization and subordination appears to be clearcut when a subordinate clause is introduced by a complementizer (Comp) or any other grammatical marker (e.g., the infinitive in Latin), it is hard to sustain and even unnecessary in some other cases. The conception of SVC assumed in this paper (which makes allowance for structural and functional variation) suggests that complementation may represent that part of grammar where subordination and serialization overlap, assuming that grammars are not monolithic.[6]

The rest of this paper is structured around a body of evidence and questions which call for a reassessment of the dominant conception of 'serialization' in studies of Atlantic creoles (Part 2) and lead to a tentative re-characterization of the strategy (Part 3). The phrase SVC is used here as a cover term for both those cases of serialization involving only verbs and those involving non-verbal predicates. The terms 'serial verb' and 'serial predicate' are used respectively for any verb and non-verbal predicates other than the first in a SVC. The first verbal or non-verbal predicate in a SVC will be called 'head.'

## 2. The Gullah Data and the Africanist Conception of SVCs.

### 2.1. *The Starting Point*

My initial data, which are very similar to those most commonly discussed in creolistics, are given in (1), in contrast with cases of subordination introduced by a Comp (2) and with cases of coordination (3):[7]

(1)a. ʌ rʌn go hom (JM)
I ran home.
b. ʌ tan luk ʌp fə hə (JM)
I turned [and] looked up for her.
c. hi ʌp dɛː də hamə on dæ lɛg baŋ baŋ fɪks ɪm ɔn də haus tap ɛn kip ɔn wakɪn (PR)
He [was] up there, hammering on that leg, bang bang, fixing it and continuing to work.
d. waʸt pipl bɪn ʌp dɛː baʸ də plʌm waʸn (PR)
A. [There] were white people there buying plum wine.
B. White people were up there buying plum wine.
e. hi dɪd tɛl sɛn dɪs man ɛn tɛl ʌm lɛ də pipl go (LR)
He did send this man and told him [to] let the people go.
f. dɛ kʸa ʌm draʸv ʌm (LR) They drove him.

(2)a. ʌ traʸ fə tɛl ʌm (JM)
I tried to tell him.
b. ʌ hiɛ sɛ rabat tɛʸk sɪk
I heard that Robert fell/took sick
c. go si if yi mama da hom
Go (and) see if your mother is home.

(3) dɛt hatlɛs tɛʸk ɪ taʸm ɛn kuk (JM)
That 'heartless' takes it time to cook.

### 2.2. *Serialization and Consecutivization*

According to the Africanist tradition, sentences such as the following constitute another category called 'consecutivization' and should, strictly speaking, be distinguished from the instances of serialization illustrated in (1):

(4)a. hi kʌm kʸa mi tə d haspitəl (MI)
He came [and] carried/drove me to the hospital.

b. dɛ kɛ̃ː go dɛː hɛp pipl (LR)
They can't go there [to/and] help people.

c. yu kʔ go tə nʸu yɔk ɛn stɛʸ fə fɔtɪ yiɛz kʌm bæk (PR)
you can go to New York and stay for forty years and come back.

d. bɔʸ traʸ t fa:s ʌm lɔk ʌm ʌp ɪn də rum (JM)
Boy tried to tie her up and lock her up in the room.

e. ši hiɛ æks mi fə go (JM)
She heard and asked me to go.

The justification behind the distinction seems to be that the constructions in (1) correspond to single events and those in (4) to sequences of separate events. (See, e.g., Hyman 1971.) Although sentences such as below (and no doubt some of those in [1]) fall in the domain of boundary indeterminacy, one wonders whether the notion of what sequence constitutes a single event and what does not is not just an intuitive one without an independent validation mechanism, hence whether it is not subject to interindividual variation and not operational. Even if it were the kind of primitive that has interested philosophers of language since Kenny (1963) and Vendler (1967), one must wonder whether there is any cognitive constraint which precludes the constructions in (4) and (5) from being treated as single events:

(5) kʌmɪŋ i:stə ɔl ʌ wi hæv ɛgz / yi no / wi kʸa i:t prɑ (LR)
Coming on Easter, all of us have eggs... you know... we carry and eat [them]. (LR)

In studies of SVCs in creolistics, the above question has generally been by-passed by the following kind of characterization: SVCs are sequences of VPs which describe events denoted by single verbs or combinations of verbs and prepositions in European languages. Aside from its colonial character,[8] the usefulness of this characterization seems dubious. For instance, the SVCs in (1a) and (1c) may be claimed intuitively to characterize single conflated events; however their English translations do not consistently correspond to single verbs. Reference to European languages is thus not as enlightening as suggested by the characterization. Note also that while the English translation of the SVC in (1a) is a single verb (by the process of lexical incorporation, in the tradition of generative semantics[9]), the French translation below calls for more than one clause, which questions again the characterization of serialization by the status of its translation:

(6) Je suis allé à la maison en courant.
I be/AUX go to the house in running

However, the verifiability of the notion of event is not the only problem. There is in a great deal of the literature no syntactic distinction, structural or otherwise, which may be associated with the distinction serialization vs. consecutivization. Only in some languages with some morphology are consecutive constructions associated with a conjunction-like affix on the serial verb or VP (e.g., Feʔfeʔ and Igbo, discussed by Hyman 1971; Old Irish, Middle Irish, and Hittite, discussed by Disterheft 1985, 1986a, 1986b). So for a large part of the literature the question arises of what the motivation and the analytical rewards are for postulating a serialization/consecutivization distinction.

As shown above, there are no reliable semantic criteria for assuming the distinction in the absence of morphosyntactic ones. What Disterheft (1986a: 295) observes below is equally significant:

> While consecutives may act like serials, the latter do not always express the semantic properties usually ascribed to them. In (7) the Akan serial expresses two distinct actions rather than a single one:
>
> (7) Kofi akɔ      aba      (Schachter 1974: 266)
>     Kofi has-gone has-come
>     Kofi has gone and came back.

I submit that the serialization/consecutivization distinction be abandoned for those languages which present no morphosyntactic evidence for it. For reasons which, I hope, become clear below, I also propose that the term 'serialization', which means nothing more than sequencing, be retained for the union of the constructions illustrated in (1), (4) and (5).

### 2.3. *The Status of the Shared NP*

There is yet another problem. Consistently with the Africanist tradition, only cases of shared subject NP have been adduced to this point.[10] The question arises of whether the above constructions are that different from those below where the shared argument is understood as the subject of the serial verb but as the object of the head verb.

(8)a. ʌ də tɛl ranɪ brɪŋ mi sʌmtɪn (JM)
I am telling Ronnie [to] bring me something.
b. ʌ tɛl ʌm stap (LW)
I told him [to] stop.
c. ə fɛlo nɛʲm mi kɪl d man myul (EH)
A) A fellow named me [as the] kill[er of] the man's mule.
B) A fellow said I [had] killed the man's mule.
d. *pro* tɪŋk ʌ go si d daktə fɪks mɛdɪsɪn fə mi[11] (JM)
I think I'd go and see the doctor to fix some medicine for me.

These constructions share with those in (1) the following characteristics: a) no connector (preposition/conjunction or Comp) occurs between the serial verb and the head predicate; b) the serial verb has no overt subject NP;[12] c) the understood subject corresponds to a NP which is an argument of the head. The only difference lies in that this null subject does not correspond to the subject of the head in (8). The question is whether this structural difference and the fact that the latter constructions are not implicative are significant enough to restrict an otherwise more general construction whose primary feature appears to be the sequencing of PredPs (verbal and otherwise) without a connector between them.

In other words, if it is justified to exclude the constructions in (8) because of the above reasons, then similar considerations must argue against identifying a class of SVCs as broad as suggested by the sentences in (1). Functionally or semantically, the serial verbs in (1) are not uniformly related to their heads. As argued below (Section 2.6), neither is their structural relation to the head predicate uniform. If these differences are so significant here, then the emphasis should not be on serialization, which pertains to sequencing and would otherwise be a misnomer. Consequently, we might as well deal with the specific kinds only and invent other terms for these. I know of no non-arbitrary morphosyntactic criteria, which must be the primary consideration, nor of any semantic ones for excluding the constructions in (8) from the general category of SVCs. The common features specified above militate instead for their inclusion.

## 2.4. *Tense and Aspect in SVCs*

It has also been somewhat stipulated that serial verbs must have the same tense and aspect as their heads and these are specified only once in the construction, on the head predicate. This stance would exclude not only some of the constructions which Byrne (1987) has adduced from Saramaccan and where the serial verb but not the head may be marked for tense, but also some of the constructions above.[13] For instance, in (8a), the durative marker *də* delimits only the head and not the serial verb. In fact the latter is generally assumed to be tenseless in such a structural position. In Gullah, there are also constructions such as (1c) and below where the serial verb is overtly marked for aspect but the preceding verb is not:[14]

(9)a. də pipl dɛ: ɪn də fi:l də wak
The people were in the field, working.
c. ʌ hiɛr hɪm gɪ:n də tɔk (LW)
I heard him again talking.

These data raise the question of what serialization as sequencing of predicates has got to do with agreement in tense and aspect, even though this is often the case (especially where an implicative relation holds between the serial verb and the head)., Except for the difference in aspect marking, these constructions are analogous to those already acknowledged as SVCs: the PredPs are sequenced without a connector, and they share a NP which is understood as the subject of the serial verb. It seems arbitrary to exclude them.

Of course the same data also raise the question of the scope of tense and aspect markers, especially when they appear before the head predicate. However, since the question does not seem to bear on the definition of serialization, it need not be addressed here. Byrne (this collection) addresses it.

## 2.5. *Serialization and Auxiliation*

There seems to be a pattern which has excluded from the category of SVCs those constructions where the first verb may be interpreted to have an auxiliary-verb function in relation to the second verb.[15] One such construction is the following:

(10) mʌ sɪstə go təːn də rɔlə (JM)
My sister will turn the roller.

What is question-begging about this criterion is the apparently a-prioristic way in which the category of 'auxiliary verbs' has been assumed in creoles and other languages which utilize serialization, especially those with no inflectional morphology.[16] For instance, note the syntactic similarity between the construction *go təːn* in (10) and the apparently SVC *go si* 'go and see' in (8d), even though they are translated differently. However, Bendix (1972) suggests that when the interpretation (qua translation?) is different, we must be dealing with two different verbs in the first position and only the one that is not an auxiliary is involved in a SVC. As proposed in Section 2.2, there is no reason why semantics must be a component of the definition of serialization. After all, not all syntactic strategies have a semantic basis; see, for instance, the heterogeneity of facts covered by the *that* complementation in English'.

Even though there are semantic constraints regarding which verbs or predicates may precede or follow which others, there seems to be no independent morphosyntactic evidence for assuming a priori, in the case of Gullah, Atlantic creoles, and other serializing languages with no inflectional morphology, that some verbs are auxiliary and therefore cannot be used in a SVC. On the contrary, I would have expected serialization (more specifically, the kind corresponding to complementation -- discussed below in Section 2.7) to be the transitional strategy through which verbs such as *go*, used preverbally, would have acquired the putative status of auxiliary verb. (See, e.g., Givon 1971 and Mufwene 1983).

## 2.6. *Are SVCs Structurally Uniform?*

SVCs have generally been discussed as though they constituted a uniform type of syntactic structure. With few exceptions (e.g., Schachter 1974, Voorhoeve 1975, and Sebba 1987), most studies I know of have consistently assigned the same phrase structure to all SVCs. For instance, pace Jansen et al. (1978), Bickerton (1981) and Byrne (1987) assign to all their SVCs the following phrase structure:

(11) $[_{VP}\ V\ (NP)\ [_{S'}\ COMP\ [_{S}\ pro_{prox}\ VP]]]$[17]

If the role of phrase structures is to illustrate the structural relations between the different constituents of a sentence, hence to highlight differences in the syntactic functions of individual constituents, the data presented so far certainly militate against assigning a uniform phrase structure to all SVCs. With the exception of the constructions in (8a-c) and (10), phrase structure (11) hardly represents the structural relations of most of the SVCs discussed so far. For instance, in the sample (1a-c) the relation between the head predicate and the serial verb may be considered to be a simple juxtaposition of conjunct-like constituents, like in a coordinate construction.[18] On the other hand, the serial verb in (1f) specifies the means of transportation, i.e., with an S node which is a VP complement or adjunct, as below, rather than as a V complement, as in (11):

(12) $[_{VP}$ VP $[_{S'}$ COMP $[_{S}$ pro VP]]][19]

This phrase structure may also be suitable for the SVC in (4b), where the serial verb specifies the purpose of the motion. As indicated in Mufwene (1989b), this phrase structure will in principle also allow the object of the serial verb to be fronted to the beginning of the whole sentence, as evidenced independently by sentences such as (13) from English:

(13) What obscenities$_i$ did Carla walk out of here mumbling t$_i$ about Dick?

The point is that the syntactic models used so far to describe SVCs require different phrase structures for different syntactic relations. Following them entails that different serial verbs must be assigned different structural relations to their heads, depending on whether they are interpreted as conjunct-like, adverbial-like, complements, etc. Hence SVCs such as in the following sentences (with the same lexical items) not only are associated with different interpretations and constituent orders but must be assigned different structural analyses, because the serial verb in each SVC just plays a different function. While *tɔ:k* in (14a) is the object of *dʌn*, *dʌn* in (14b) is conjunct-like and is not an object or any other complement of the head verb. In other words, the difference between the two sentences involves more than change in the positions of the verbs.

(14)a. A [dʌn $[_{S'}$ *pro$_i$* tɔ:k]]
I have finished talking.
b. A $[_{VP}$ $[_{VP}$ tɔ:k] $[_{VP}$ dʌn]]
I have spoken and finished [and don't intend to speak again].

The above discussion is not, however, the only solution to these data. Alternatively, we could abandon the syntactic models alluded to here and their working assumptions altogether. For instance, we could claim, instead, that as a surface-structure phenomenon, SVCs stand somewhere between configurational and non-configurational syntax, though I find no justification for this departure from the tradition. (Hale's 1985 idea of 'secondary predication' without a fixed phrase structure is worthwhile considering in this connection.) Whichever way we go, though, some justification is required for the position. This paper simply shows that some of the literature seems to have assigned the structures quite arbitrarily and we should get out of this practice.

### 2.7. *SVCs and Complementation*

The set of constructions in (15) illustrates another kind of verb sequencing which Sinologists have acknowledged as SVC. I have generally not seen this discussed in the creolists' accounts of serialization, except for Byrne (1987). Seuren (1988, see also this collection) explicitly excludes it, claiming that it is a regular case of complementation.

(15)a. ʌ wɔ̃ go (common)
I want to go.
b. ʌ traʸ tɔk (common)
I tried to talk.
c. dɛ stat tɛʔk ʌp də mʌnɪ (JM)
They started to take up the money.
d. ʌ ʔ no fiks do brɛd wɪ wɔtə (JM)
I don't know how to bake bread with water.

The question is whether serialization and complementation or subordination, with which complementation has been confused (cf. n. 6), should be treated as having mutually exclusive structures. For instance, Haiman and Thompson (1984:511) list the following properties as typical of subordination:

1. Identity between the two clauses of subject, tense, or mood
2. Reduction of one of the clauses
3. Grammatically signaled incorporation of one of the clauses
4. Intonation linking between the two clauses
5. One clause is within the scope of the other
6. Absence of tense iconicity between the two clauses
7. Identity between the clauses of speech act perspective.

It is hard to assume that these properties are definitional. For instance, there are subordinate clauses which are not reduced, especially those which are finite. Regarding tense and mood, infinitival clauses in English pose problems. In constructions such as *I want to get into this matter*, the infinitival clause, underlined, is said to be tenseless, at least morphologically. Also, as far as I know, the infinitive is a different mood from the indicative. In addition, in a sentence such as *I expect them to have abandoned some of these criteria*, the infinitival clause refers to an event that is anterior to the state of expecting, even though the clause may also be claimed to be morphologically tenseless.

However, leaving this criticism aside, it is hard to miss the fact that most of these features apply also to SVCs. Even though Byrne (1987) claims that in Saramaccan some serial verbs may have their own subjects, most of the SVCs discussed in the literature share property 1 with Haiman and Thompson's subordinate clauses. They also share properties 2 and 4, and, even in assuming the Byrne-Bickerton phrase structure, also property 5.[20] There are also SVCs such as in (1) which share property 7 with subordination. So the only differences between this and serialization seem to lie with property 3 and apparently also property 6, if we rule out, or treat as exceptional, some of the Saramaccan SVCs discussed by Byrne (see also Boretzky 1988 for Ewe) in which tense is borne by the serial verb but not by the head predicate. (According to Boretzky, such SVCs are highly constrained, depending on what heads a particular SVC in Akan languages. These properties are of course not those that distinguish complements from other subordinate clauses. I do not, however, see any formal property which may be adduced to distinguish complements from SVCs. Nor do I see what is to be gained in assuming that this distinction is syntactic (regarding here the structural arrangement of word-size and larger constituents in sentences) rather than the kind of distinction proposed in n. 6.. That is, the notion of 'complement' has to do with function while those of 'serialization' and 'subordination' have to do with arrangement and status of PredPs and clauses. Otherwise, the notions overlap in what they were intended to do in grammatical theory.

One might still dispute the conclusion that property 3, the most reliable one so far, helps tell subordination from serialization. It may be claimed that the following underlined clauses in English do not have a marker signalling their incorporation in the larger sentence and subordination to the higher verb:

(16)a. They made him reveal everything.
b. Bill saw Jane and Paul leave Larry's room in a hurry.
c. You might help me solve this problem.

One way to salvage the operationality of property 3 is to argue that the infinitive in English is marked by a zero affix on the verb and thus the zero affix is as much a grammatical marker of subordination as any other overt marker. No such null marker need then be assumed of the connection between PredPs in serialization. Consequently, no COMP should be provided in phrase structures such as (11) and (12) above. However, things are getting fuzzy here and I hope future studies will clarify what actually distinguishes the cases of subordination in (16) from cases of serialization. Assuming that the infinitive is a different mood, indicated in English by a zero marker, mood may be considered a useful criterion in the distinction. Serialization may require that all PredPs involved in the construction be in the same mood; subordination may, on the other hand, make no such a requirement. There might even be some additional language-specific conditions, such as suggested by the following of the many examples discussed by Pullum (1990), assuming that constructions such as *go get*, *come get*, and *help get* are SVCs. The underlinings are mine:

(17)a. Come fly with me.
b. I told you to go get the paper.
c. *Everyday my son goes get the paper.
d. *Everyday my son goes gets the paper.

Iconicity in the sequencing of PredPs relative to the states of affairs they describe is certainly an important consideration though not in the way formulated by Haiman and Thompson for property 6. The syntactic and tense relations of subordinate clauses to their main

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clauses need not be iconic relative to the states of affairs they describe; those of SVCs apparently must be. As Tai (1985) observes, in the absence of fixed structural and morphological patterns, iconicity constraints and pragmatics keep things manageable. (See also Li and Thompson 1978.) Note that, after all, the grammatical signals only reflect what conceptually precedes and could be expressed in a variety of ways: states of affairs in the speakers' experiences and how they are related to one another. This observation has nothing to do with the assumption by some creolists (notably, Bickerton 1981, 1984) that in the development of languages, serialization precedes subordination. (See also Manessy 1985 for a similar criticism.) There is no convincing evidence for this assumption even in the creoles that Bickerton based his assumption on. Byrne (1987) and Muysken (1987) show clearly that SVCs in Saramaccan alternate with prepositional constructions, disputing Bickerton's assumption that serialization serves to mark Case in the absence of prepositions in radical or stereotypic creoles, which use them.

## 2.8. *Possible Constraints on SVCs*

One last question may be addressed here, viz., what kinds of predicates (verbal and non-verbal) may be used in SVCs and in what order? Most discussions of serialization have dwelled on events, i.e., ACTION - ACTION sequences. Sentences (9) illustrate that ACTION - STATE sequences are possible, assuming here, as in Mufwene (1984), that the durative or progressive aspect is the grammatical means of expressing stativity with verbs which do not rank high on the scale of lexical stativity. There are also sentences such as (1c&d), (4c), and (14) which illustrate STATE - ACTION sequences.

Constructions such as in (1a), *rʌn go*, and in (1c), *də hamə ... fɪks ʌm*, are quite commonly cited, with the additional interest that the part which corresponds to the participial adjunct in either French or English comes first instead of second (while the vast majority of PCs are SVO languages). However, sentence (1f) illustrates with *kʷa draʸv* that the adverbial component may follow. This shows that, even semantically or functionally, things in serialization are far from being either uniform or homogeneous.

## 3. Conclusions

A number of other questions could have been addressed above which conventional limitations of space will not allow me to pursue here, for instance, what is the evolutionary and developmental significance of serialization among the strategies of complex-sentence formation in Gullah and creoles in general, and what are the different kinds of semantic functions most often assumed by serial verbs and why? This will be addressed in future stages of research on serialization. Suffice it to say that, like other creoles, Gullah also has SVCs (contrary to my assumption before researching for this paper), and we can learn something from the sample presented here.

Based on the discussion above (Section 2.1-2.7), it seems that the term 'serialization' applies to a heterogeneity of syntactic relations and semantic functions. This is not to say that these facts share nothing grammatically. On the contrary, the paper has argued that what the different SVCs share is a particular type of linearity, viz., the sequencing of predicates or PredPs without an overt marker of either subordination or coordination and the fact that each serial predicate shares a NP (which functions as its subject) with the preceding predicate. Iconicity in the sequencing of the constituents of a SVC relative to the states of affairs they describe appears to be significant, along with the sharing of mood and tense; however, nothing seems to argue for the sharing of aspect. It is possible that when tense is expressed only once and is borne only by the serial predicate, we may be dealing with some (highly) constrained exceptions, as suggested by Boretzky (1988). However, future research, such as by Byrne (this collection) on tense spreading will shed light on the subject-matter. There is already crosslinguistic variation regarding whether or not verbs inflected with tense may participate in serialization. For instance, they do not in Kituba but do in Lingala (Mufwene 1990:102; Mufwene and Dijkhoff 1989:326-28).

The fact that the shared NP is sometimes the subject of the head predicate and at some others its object seems to be irrelevant to the definition of serialization. As a special kind of linearity, serialization is in itself a grammatical phenomenon of interest; after all, syntax is not only about phrase structure and function of constituents, it is also about how constituents (word-size ones in the present case) are sequenced. Serialization highlights variation regarding whether a connector is or is not used in complex-sentence formation strategies. Any definition of it in general that invokes semantics or phrase structure appears to be arbitrary and not to take all the facts into consideration. Most of the definitions used so far have been too restrictive.

## Notes

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1. See, e.g., Stahlke (1970), Hyman (1971), Awobuluyi (1973), Bamgbose (1973, 1982), Lord (1973, 1976, 1982), Oyelaran (1982), and Manessy (1985). On the other hand, there are some exceptions to this generalization, e.g., Pulleyblank (1988).

2. To keep the list short, only a sample of studies which are specifically or predominantly on SVCs are cited here.

3. Emphasis is placed here on the syntactic aspect of the definition, which this paper intends to highlight as the definitional

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and most important facet of serialization. Other specifics are discussed below.

4. The ellipsis stands for the following part of his definition, which is rather irrelevant: 'and exhibiting zero anaphora.' In fact it is rather disputable for those like myself who assume that there is no uniform syntactic structure for SVCs and for those like McCawley (1988) who assume that conjoined and presumably coordinate-like structures involve no null anaphora.

5. The term 'preposition' is used in this definition as subsuming also subordinating conjunctions, treated in, e.g., McCawley (1988) as prepositions with sentential complements.

6. As shown in Mufwene (1988, to appear), a number of strategies in grammar overlap, suggesting that grammars are not structured like monolithic sculptures, where lines and cuts do not overlap. At least for the purposes of this paper, I assume that the term 'subordinate' has a strictly syntactic function, whereby a clause is given a secondary status, as with adverbial clauses. The term 'complement' means primarily 'that which makes a thing complete,' suggesting that its absence from some constructions may produce oddity. These terms are not semantically coextensive. For instance, in English, adverbial clauses introduced by conjunctions are both subordinate clauses (with the conjunction serving as the subordinator) and complements of the conjunctions. However, participial clauses are morphologically marked as subordinate while they are complements of nothing.

7. Most of the data discussed here are cited from tape recordings of spontaneous speech. The parenthesized initials identify the speakers. Those which are not so identified have been elicited. The transcription is phonetic. The underscore identifies the relevant sequence of predicates in SVCs (1), the relevant Comps(2), or the relevant coordinator (3).

8. This reflects the failure of many studies to consider new data independently of the Indo-European linguistic categories in which we have received most of our training. (See Mufwene 1989a for a detailed discussion.)

9. See, e.g., Talmy (1975) for a discussion of this lexical process.

10. Voorhoeve (1975:24) is quoted by Sebba (1987) to stipulate that $VP_1$ accepts the nearest NP as subject." In creole studies, they and Seuren are among the few exceptions to the observation made

here.

11. There is another reason why some creolists would not identify this construction as serial: it is not implicative (see, e.g., Seuren 1988), nor is ***si*** a control verb. However, these semantic considerations seem to be a prioristic. Like the other semantic evidence considered so far, they fail to have a syntactic correlate which justifies the restriction.

12. According to Lefebvre (1988), it is, instead, the serial verb that has an overt argument and the preceding verb lacking one. The proposal is, however, in violation of the c-command constraint on anaphora, as more accurately reformulated by Reinhart (1983), viz.,

> In any labeled tree, a node $X^1$ c-commands a node $X^2$ if and only if $X^2$ is dominated by the lowest node of a major category (i.e. S, NP, or X') that dominates $X^1$, or by a modifier of that node.

13. From a syntactic point of view, I assume that even in isolating languages tense and aspect markers qua predicate modifiers form with the predicates which they modify units of the same grammatical category. For the purposes of this study, these combinations count as one predicate and thus qualify for serialization.

14. Bendix (1972) is to my knowledge the only other study (aside from Byrne 1987) which would recognize the constructions in (9) as SVCs.

15. Bendix (1972) excludes them explicitly, and this is one of the negative criteria listed by Jansen et al. (1978) for the identification of a SVC.

16. See Manessy (1985) for a criticism of Jansen et al. (1978) in this regard.

17. Sebba (1987) also adopts this phrase structure as a kind of waste-basket analysis for non-coordinating SVCs, a mixed bag which he characterizes as "subordinating."

18. Co-ordination itself is semantically a mixed bag with regard to the temporal relation of the events to one another. However, this may be disregarded here, since this paper shows that syntax is what makes serialization different from other strategies for forming complex sentences.

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19. I am not certain that a COMP is required in this structure; further research will determine this. The reason for the uncertainty is that SVCs are distinguished from other types of complex sentences by the absence of an overt connector, including a Comp, between PredPs (certainly incomplete clauses in some cases). However, this does not necessarily preclude positing an underlying COMP where other language-internal evidence (e.g., the structures of interrogative clauses or of embedded clauses with an overt Comp) may suggest the presence of a COMP that must be empty in the surface structure of a SVC.

20. Assuming McCawley's (1988) account of coordinate structures by factoring out shared constituents (without positing a null anaphor in conjuncts other than the first), SVCs with conjunct-like serial verbs do not count for property 2. However, this very consideration that excludes them brings them closer to coordinate structures, suggesting that SVCs are like other better established syntactic constructions in a number of ways.

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# SERIAL VERB CONSTRUCTIONS AND MOTION EVENTS IN CARIBBEAN ENGLISH CREOLES.*

Donald Winford
The Ohio State University

## 1.0: Defining Serial Verb Constructions:

One of the best known and most widely researched features of creole languages is the so-called serial verb construction (SVC).[1] This feature is also widespread in Niger-Congo languages, as well as in South-East Asian and Austronesian languages, among others (See Kachru 1978 and Schiller 1990 for detailed references). Sentences (1a-c) are typical examples of such constructions in Caribbean English Creole (CEC).

(1) a. Mieri waak go a maakit.
'Mary walked to the market'
b. Jan bring moni gi shi.
'John brought money for her'
c. Di pikni taal paas mi.
'The child is taller than me'

Items such as go, gi and paas in the above sentences will be referred to as serial verbs in this discussion. Such items are an essential aspect of CEC predication, playing a vital role in marking various grammatical relations. Among these are those associated with Case, as well as functions performed by categories such as prepositions and complementizers in other languages. SVC's have posed problems of various sorts for analysts, beginning with the question of how to define them. Sebba (1987, 39) proposes the following criteria for identifying such constructions:

(2) "In a sequence of the form V1....V2,
(a) both V1 and V2 must be lexical verbs, ie, must be capable of appearing as the only verb in a single sentence.
(b) If it is possible to conceive of V1 and V2 as denoting separate actions at all, then both V1 and V2 must be interpreted as having the same tense and aspect. Thus for example, V1 may not be interpretable as "past" if V2 is interpreted as "future."
(c) There must not be an ascertainable clause boundary between V1 and V2, ie, they must be within the same clause.
(d) No conjunction should separate the verbs in sequence."

Each of the properties described above by Sebba has been the focus of controversy in the analysis of serial verb constructions. Property (a) relates to the question of the categorial status of a serial verb, ie, the V2 in an SVC. Properties (b), (c) and (d) involve the question of the constituent structure of SVC's - in particular whether they constitute a single clause, or some form of co-ordinate structure. Both of these questions will be considered in the following discussion.

In general, then, an SVC consists characteristically of verb phrases linked in unbroken sequence, with the same subject, in the same tense, aspect or mood, agreeing in positive/negative polarity, and with no intervening conjunction. In addition, the verbs in an SVC characteristically share at least one argument. Typical examples are to be found in West African languages, where SVC's have one of the following two structures, depending on the particular language (Nylander 1985, 20).

(3) (a) NP1 Aux$_i$ V1 (NP 2) Aux$_i$ V2
(b) NP1 Aux V1 (NP2) V2.

My aim in this paper is to describe a specific set of SVC's in CEC and other New World creoles - those which involve Motion events. These form only a subset of the possible SVC's on these languages, which in fact constitute a fairly diversified range of structures with different syntactic properties, with the serial verbs themselves performing a variety of grammatical functions. It is not my intention to analyse all the possible types here. Instead, I hope, by focussing narrowly on a specific subtype, to examine in some detail both the underlying syntax and the related grammatical functions performed by the serial verbs.

In Section 2, I consider cases of what appear to be co-ordinate structures in Saramaccan (SM) and distinguish them from true SVC's. I accept Sebba's (1987) classification of the latter into "co-ordinating" vs "subordinating" types, and argue that the former type is relatively unproductive in contemporary CEC, by contrast with the Surinamese creoles. Section 3 introduces the main concern of this paper, the SVC's that express Motion events, all of which seem to belong to the "subordinating" type. I employ Talmy's (1985) sketch of the major components of a Motion event to illustrate the basic syntactic patterns which Sranan (SN) employs to express such events. In Section 4, I examine a variety of motion-related SVC's in CEC, which follow the basic patterns outlined for SN. These include "Directional," "Purposive" and "object-sharing" SVC's. I account for the syntax of these constructions within a GPSG framework which allows us to specify the possible sequences of (members of) V1 and V2 fairly precisely in terms of the subcategorization properties of the verbs themselves.

## 2.0: Parataxis vs SVC's:

Byrne (1987, 200) mentions cases of VP linkage in SM involving differences in Tense/Aspect or Polarity marking on the verbs involved.

(4) SM a. a go/ko ta luku di mii
he go/come IMP look the child
'He went/came to look at the child'
b. a go/ko a di wosu an luku di mii
he go/come to the house NEG look the child
'He went/came to the house, but not to look at the child'

The glosses offered by Byrne suggest that these structures are cases of serialization. However, (4a) clearly violates criterion (2b) above, while (4b) violates the generally accepted criterion that the verbs in an SVC must have the same polarity. Later in his discussion, Byrne in fact uses criterion (2b) to distinguish SVC's such as (5a) from what he calls "sequential" constructions such as (5b)

(5) SM a. a ta waka go/ko a di opolani
'He is walking from/toward the plane'
b. a waka nango/ ta ko a di opolani
he walk IMP-go/IMP come to the plane
'He walked and is going to/coming from the plane'

Byrne comments that only (5a) expresses "the directionality of the previous motion verb waka ("walk"), since their time frames are the same (or are interpreted as such). This is a prerequisite for such a reading." On the other hand, (5b) "can only be read as sequential events as the gloss indicates." (1987, 205). It seems clear that this interpretation of (5b) applies also to sentences like (4a-b); none of these can be considered cases of serialization. Structures like these have not been attested for SN or any variety of CEC. They seem to be instances of parataxis rather than serialization, though the boundaries between these two are rather difficult to define.

## 2.1: Paratactic-like SVC's:

It is well known that parataxis and serialization share a great deal in common. Both may involve a single subject NP followed by a series of verb phrases, without overt markers of coordination. However, as Noonan (1985, 76) points out, the paradigm cases of parataxis differ from serialization in several respects. Unlike the verbs in SVC's, those in paratactic constructions need not have obligatory agreement, nor share identical TMA or polarity marking, nor even identical subjects. Just as importantly,

> "the syntactic differences noted above correlate with a crucial semantic difference, namely that paratactic constructions contain two assertions, ie, each clause is separately asserted, whereas serial constructions contain just one, encompassing the entire construction." (Noonan 1985, 77)

By most of the syntactic and semantic criteria outlined above, the Saramaccan constructions exemplified in (4a-b) and (5b) above would have to be regarded as cases of parataxis rather than serialization. Other researchers apart from Byrne have failed to draw a clear line between paratactic structures and true SVC's. Thus Schiller (1990b, 406) claims that "co-ordinating serial verb constructions...may have mixed tenses or aspects, and....can have conjunctions inserted," citing the following examples from English.

(6) a. Go (and) play in the yard
b. He up(ped) and died on me.

By the criteria adopted here, neither (6) nor cases involving mixed tenses or aspects such as (4) will be regarded as SVC's in the strict sense. What distinguishes "coordinating" SVC's from coordination in the usual sense is that the latter is more "open-ended" than the former. In other words, a far wider variety of VP's can be linked together in coordination (whether overtly marked or not) whereas "coordinating" SVC's, like other cases of strict serialization, involves more rigid selectional restrictions on the serial verbs that can enter into combination. I will consider this in more detail below, though it is not always easy to specify what the selectional restrictions are. But the distinction is by no means equally clearcut in all cases. It would appear instead that cases of serialization display varying degrees of similarity to the paradigm cases of parataxis on the one hand, and to cases of hypotaxis on the other. As Noonan points out,

> "Serial constructions are in many respects intermediate between hypotaxis and parataxis. As in hypotaxis notional complements in serial constructions form a single assertion with their CTP's (complement-taking predicates). But like parataxis, the component verb phrases seem to be syntactically on a par." (1985, 107).

Sebba (1987) offers a wide variety of serial structures in Sranan which seem more akin to cases of parataxis, and which he refers to as "coordinating" SVC's. He argues that "their distinguishing characteristic is that they refer to several actions, more or less simultaneous, as opposed to a single action."(1987,110). This contrasts with what he refers to as "subordinating" SVC's, which refer to a single action rather than a series of related actions. Sebba's use of the term "coordinating" to refer to those true SVC's which sisplay certain properties of coordination seems to me to be more appropriate than Schiller's use of the term. To illustrate, (7a) represents a "coordinating" SVC, while (7b) is a "subordinating" SVC.

(7) SN a. Kofi naki Amba kiri en.
'Kofi struck Amba and killed her'
b. Kofi naki Amba kiri.
'Kofi struck Amba dead'

Sebba argues that while (7b) describes a single action, (7a) "describes a series of events; Kofi struck Amba, possibly several times, killing her." (Ibid). Further examples of coordinating SVC's in Sranan include the following:

(8) SN a. Amba go na wowoyo bay nyan.
'Amba went to market and bought food'
b. Kofi opo Amba, tyari en gwe.
'Kofi lifted Amba and carried her off'

According to Sebba, such structures have other characteristics associated with coordination. First, they are subject to Ross's Coordinate Structure Constraint, which prohibits extraction from a coordinate structure. Hence neither verb's object may be moved.

(9) SN a. *San Amba go na wowoyo bai __?
'What did Amba go to market and buy?'
b. *Suma Kofi opo __ tyari en gwe?
Who did Kofu lift and carry off?'

Secondly, a slight pause or "comma intonation" is possible after the first VP. In general, such structures seem to involve combinations of VP's in which each verb has its own argument structure. This contrasts with more typical SVC's such as (6b), where the two verbs share a common argument, expressed only once.

The above facts suggest that no hard and fast line can be drawn between parataxis and serialization in Sranan, and perhaps in creoles and other serializing languages generally. Sebba's approach, which classifies Sranan SVC's into "coordinating" and "subordinating" types, is a useful working strategy. However, it should probably not be interpreted as having universal application, but rather as a language-specific distinction between those types of SVC that share more in common with paradigm cases of parataxis, and those which share more in common with typical cases of subordination. To sum up this section, I suggest that a relevant taxonomy must distinguish at least the following types of construction:

a. Overtly-marked coordination.
b. Parataxis (non-overtly marked conjoining of clauses).
c. Coordinating or paratactic-like serialization.
d. Subordinating or hypotactic-like serialization.
e. V+V combinations that behave like single words.[2]

2.2: Paratactic-like SVC's in CEC:

CEC appears to have a number of structures corresponding to the "coordinate" SVC's of Sranan. Examples include the following from JC:[3]

(10) JC a. di bwai faaldong brok im fut.
'The boy fell down and broke his foot'
b. di uman luk slap ina mi truot a tek-out ebri wod.
'The woman looked all the way into my throat, taking out every word (I said)'
c. di haak kech di chikin iit it.
'The hawk caught the chicken and ate it'

These structures display the same properties that Sebba noted for their counterparts in Sranan - ie, they are subject to Ross' constraint, and allow for "comma intonation." Bailey (1966) says little about such structures, limiting her comments to that exemplified in (10a), which she describes as "the reduced coordinate with verbs of motion." (1966, 133). She suggests that sentences like this are derived from coordinate VP strings by deletion of the conjunction an. It is more likely, however, that an is inserted into such structures in more mesolectal varieties, as Alleyne (1980, 168) suggests.

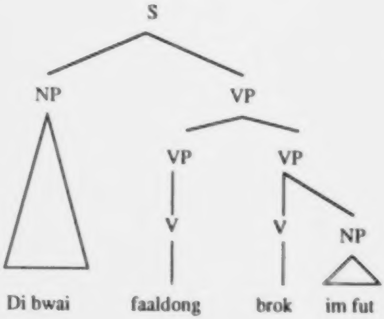
Bailey's recognition that verbs of motion are typically involved in such structures is an important insight, and we shall see later that CEC shares other types of SVC involving motion events with the Surinamese creoles. These and other types display varying degrees of similarity to cases of parataxis on the one hand, and hypotaxis on the other. As far as "coordinate" SVC's are concerned, it does not appear that the pattern is as productive in CEC as it is in Sranan. As Alleyne mentions, there is an increasing tendency to insert an ("and") in such structures, thus distancing them more from cases of true serialization.

As far as the syntax of "co-ordinating" SVC's is concerned, researchers like Sebba (1987) and Baker (1989) have proposed different constituent structures for coordinating as opposed to subordinating types. Other researchers, such as Schachter (1974) and Schiller (1989) argue that the same phrase structure applies to the two types. The disagreement actually revolves around the phrase structure of the subordinating type, which I will consider below. There seems, however, to be general agreement that coordinating SVC's involve two or more VP's of equal rank. The underlying structure that I propose for this type of SVC follows that suggested by Sebba (1987).

(11) VP -------> VP, VP

Sentences like (18a) above would have the following underlying structure.

(12)



CEC, as pointed out earlier, differs from the Surinamese creoles in allowing VP's and other categories to be conjoined by an, bot and other conjunctions. These cases of coordination can be handled by means of coordination schema similar to those suggested for English by Gazdar et al (1985: 171).

### 3.0: "Subordinating" SVC's:

The vast majority of SVC's in both the Surinamese creoles as well as in CEC belong to what Sebba refers to as the "subordinating" type. For Sebba, this is both a semantic and a syntactic designation. Subordinating SVC's all display the following characteristics:

(13) a. The sentence is interpreted as referring to a single action rather than a series of related actions.
b. There is a strict ordering relation between the verbs.
c. The first verb in a series may subcategorize for a particular verb or class of verbs to follow it.
d. Where relevant, V1 and V2 share a common argument, expressed only once. (Sebba 1987, 112-13)

In addition, these constructions are distinct from the "co-ordinating" type in allowing wh-extraction out of either serial clause.

The structures which satisfy these requirements make up a much larger class in Sranan than in CEC.[4] Before turning attention to those types that CEC shares with the Surinamese creoles, a brief look at structures found in Sranan is in order.

## 3.1 Motion Events in SN:

It is worth noting, to begin, that the vast majority of "subordinating" SVC's described by Sebba for SN involve Motion events. Since the treatment of such events represents an area of significant typological differences between creoles and their lexically-related European languages, it is worth examining in some detail. According to Talmy (1985, 126) the major components of a motion event include Figure (the salient moving or stationary object); Ground (the reference object with respect to which the figure's path/site is reckoned); Path (the variety of paths followed, or sites occupied by the figure object) and Motion (the presence per se in the event of motion or location). In addition to these four components, a Motion event can have a Manner or a Cause. A final though secondary, component is Direction (whether the figure is moving toward or away from the speaker).
Components such as Figure, Ground, Motion, Path, Manner, Direction, etc. are in effect semantic elements which may be expressed in different ways by surface elements such as verbs, prepositions, "satellites" like off, away etc. As is to be expected, "this relationship is largely not one-to-one. A combination of semantic elements can be expressed by a single surface element, or a single semantic element by a combination of surface elements" (1985, 57).

To illustrate, in a sentence such as

(14) The book slid off the desk.

the book functions as the Figure, and the desk as the Ground. Off expresses the notion of Path, while the notions of Motion and Manner are conflated in the verb slid. The pattern of a typical Motion event can be represented as in

(15) Figure Motion (Direction) Path Ground $\left\{\begin{matrix}\text{Manner}\\ \text{Cause}\end{matrix}\right\}$

Languages display a variety of typological patterns for the expression of combinations of Motion and other semantic elements. To take one example, English typically conflates Motion and Manner in the verb, as in

(16) a. The bottle floated into the cave (Non-agentive)
b. I rolled the keg into the stateroom (Agentive)
(Talmy 1985, 62-64).

On the other hand, the Romance languages such as Spanish typically conflate Motion and Path in the verb, expressing Manner as an independent, usually adverbial or gerundive type constituent:

(17) a. La botella entró a la cuerva (flotando)
The bottle moved-in to the cave (floating)
'The bottle floated into the cave'

b. Metí el barril a la bodega rodándolo
I moved-in the keg to the storeroom rolling it
I rolled the keg into the storeroom (Talmy 1985, 69-70)

If we examine SVC's in Sranan which expresses motion events, we see that they fall into quite clear patterns, in terms of the model presented in (15). First, we have patterns involving agentive Motion verbs much as the following:

(18) SN a. Kofi hari a ston komoto na ini a olo
Kofi pull the stone come-out LOC in the hole
'Kofi pulled the stone out of the hole' (Sebba p.121)

b. A fringi wan baskuta nanga preyti fadon kon na gron
he throw one basket with plates fall-down come LOC ground
'He threw a basket of plates down on the ground'
(Sebba pg. 46).

In such a pattern, the first verb in the SVC, V1, is an agentive (transitive) verb which conflates Motion and Manner, while the second verb, V2, is an intransitive verb which indicates Path (sometimes conflated with Direction). This pattern may be represented schematically as in Table 1, which lists a representative selection of the membership of V1 and V2 in such structures.

Table I. Pattern A. Motion Verbs in Sranan

| Semantic Elements | Agent | Motion & Manner | Figure | Direction (&Path) | (Loc.)Ground |
|---|---|---|---|---|---|
| Surface Elements | NP | Vtran | NP | Vintr. | P + NP |
| Class members | | hari (pull)<br>fringi (throw)<br>sregi (drag)<br>opo (lift)<br>yagi (chase) | | komoto (come out)<br>komopo (come up)<br>fadon (fall down)<br>kon (come)<br>go<br>gwe (go away)<br>etc. | |

I shall refer to constructions which follow this pattern as transitive directional SVC's, and the V2 will be referred to as a directional serial verb.

A slightly different pattern is shown in sentences like the following, where both verbs in the SVC are non-agentive (i.e. intransitive).

(19) SN a. Amba waka go na ini a oso
Amba wlk go LOC in the house
'Amba walked into the house' (Sebba, p.120)
b. a saka komoto na tapu a sodro
he descended come-out LOC top the attic
'He came down out of the attic'
c. dowwatra ben e dropu fadon na den wiwiri
dew-water PAST ASP drop fall LOC the-pl. leaf
'Dew was dripping on the leaves' (Sebba pg. 44).

Here again the chief function of the V2 is to indicate Path and Direction. Table 2 represents this pattern, with examples of verbs which can function as V1 and V2 respectively.

Table 2. Pattern B. Motion Verbs in Sranan.

| Semantic Elements | Figure | Motion & Manner | Direction(&Path) | Ground |
|---|---|---|---|---|
| Surface Elements | NP | Vintr. | Vintr. | P + NP |
| | | waka (walk) | komoto | |
| | | lon (run) | komopo | |
| | | saka (descend) | fadon | |
| | | frey (fly) | kon | |
| | | etc. | go | |
| | | | gwe | |
| | | | etc. | |

Structures which follow this pattern will be referred to as intransitive directional SVC's. As before, the V2 is a directional serial verb.

Pattern B is practically identical to that found in many West African languages, as Sebba (1987, 187) points out. Sebba's survey of SVC's in West African and other languages says little about other patterns, such as Pattern A above. Presumably further research will shed more light on how productive the various patterns are in serializing languages, West African, creole, and others.

A third pattern found in the Sranan examples offered by Sebba involves two transitive verbs which share the Figure as their common argument, as in

(20) SN a. Kofi hari a ston puru na ini a olo (Sebba p. 123)
Kofi pull the stone remove LOC in the hole
Kofi pulled out the stone from the hole
b. Kofi fringi a tiki trowe na ini a dyari
Kofi throw the stick eject LOC in the garden
Kofi threw the stick away into the garden.

This pattern is represented in Table 3.

I shall refer to structures of this type as "object-sharing" motion SVC's. Sebba (1987, 46-49) discusses further details of the semantics as well as the distribution of V2 in SVCs which follow this pattern.

Table 3. Pattern C. Motion Verbs in Sranan.

| Semantic Elements | Agent | Motion & Manner | Figure | Direction (& Path) | Ground |
|---|---|---|---|---|---|
| Surface Elements | NP | V trans | NP | V trans | P & NP |
| | | hari | | puru | |
| | | fringi | | trowe | |
| | | srepi | | poti (put) | |
| | | opo | | | |
| | | teki | | | |
| | | etc. | | | |

The above discussion reveals that the patterns of use of serial verbs to express motion events in Sranan are regular and consistent. Such patterns are a useful starting point for attempts to account for the syntax of SVCs. It is not my intention to provide a grammar of Sranan SVCs here (See Sebba (1987) for an attempt). However, in the discussion of similar SVCs in CEC to follow, it will be seen that the syntactic structure of those SVCs which CEC shares with SN is essentially the same. Hence my analysis has implications for Sranan SVC's as well. CEC shares all of the Patterns so far discussed with Sranan, though Pattern C does not appear to be as productive. Even in the case of Patterns A and B, the range of V2 which can occur in such structures is quite narrow - being in fact restricted to just kom, go and gaan. I discuss these below.

## 4:0: Motion-related SVCs in CEC:

The motion-related SVC's of CEC offer some interesting points of comparison with the structures just discussed for SN. The SVCs to be discussed here involve the use of a $V_2$ which in some sense modifies the action or event expressed by the $V_1$, hence the label "verb modifying" serial suggested by Byrne (1987, 199). In this sense, the $V_2$ (along with its arguments, if any) acts as a kind of adjunct to the $V_1$. I shall follow the usual practice of referring to the $V_2$ in these cases as the "serial verb", and the $V_1$ as the "matrix verb". The serial verbs to be considered here fall into several subtypes. There is first of all "Directional" go, kom, and gaan, which follow Patterns A and B sketched earlier for SN SVC's. These three appear to represent the only path/directional serials that contemporary CEC shares with SN, which as we saw earlier, has a rich range of such serials apart from kon and go. In addition, we have "Purposive" go, kom and gaan, which subcategorize for a VP complement of their own, and "object-sharing" serial verbs like tek, which follow Pattern C as described above for SN. All of these SVCs belong to what Sebba calls the "subordinating" sub-group, whose characteristics were discussed in Section 3.0. One of my aims in the following discussion will be to account for the syntactic structure underlying each type of SVC in terms of the subcategorization properties of both the $V_1$ and the $V_2$.

## 4.1. "Directional" SVCs in CEC:

In English and other European languages, the semantic element of direction is typically found incorporated in verb roots - for example come/go, or bring/take, or else expressed by verb "satellites" (Talmy 1985, 102) such as away, toward etc. In other languages, Direction may be marked independently by satellites, for example in Atsugewi the pair -ik/-im, and in Mandarin ....lái/qù ("hither/thither") (Talmy 1985, 135). CEC and other creoles share with a variety of West African languages the typological feature of marking Direction through serial verbs. The directional serial verbs of CEC are kom, go, and gaan, which may follow any verb of motion, whether transitive or intransitive. The behaviour of these two verbs is identical to that of their counterparts in SN (kon, go, gwe) and SM (ko, go, gwé). The following sentences illustrate Patterns A and B as described above for Sranan.

Pattern A:

(21) CEC a. dem bring di pikni kom a tong
They brought the child to town
b. dem kyari food go a riva
They carried food to the river
c. dem gain tek dem go bak
They're going to take them back/ return with them

Pattern B:

(22) a. dem a waak go a maakit
"They're walking to (the) market
b. dem ron kom in a di hous
They ran into the house
c. dem ron gaan a shap
They've run to the shop
d. Mieri swim-we gaan
Mary swam away

Bailey (1966,41 fn.2) notes that there is a distinction between go and gaan; whereas the former "is purely directional with some goal implied or expressed, gaan is final as well, and there need be no expressed or implied goal." The main distinction between go and kom, on the one hand and gaan on the other, seems to be that the latter is restricted in its serial function to verbs in Past tense or Perfective aspect, as in (22c-d), whereas the former can follow motion verbs with any TMA designation. For this reason, most of the following discussion will focus on go/kom, though mention will be made of gaan where appropriate.

As Sebba (1987, 45) points out with respect to Sranan, the semantic contribution of go and kom as serial verbs is merely to specify the direction of the motion (toward or away from the speaker)[5]. As in SN, directionality in CEC is not normally expressed by prepositions[6]; thus the locational preposition a is neutral with respect to direction.

(23) CEC a. dem de a maakit
They're at the market
b. dem a waak a di striit
They're walking in the street

### 4.1.1: The syntax of directional SVC's.

I turn attention now to the syntax of directional SVC's. Sebba (1987) provides a treatment of these structures withen the GPSG framework which makes my own task somewhat easier. However, there are certain aspects of this analysis which require some modification. First, Sebba accounts for the distinction between intransitive and transitive directionals by writing it into the ID rules themselves, as in the following:

(24) IVP ------> V[1] PP
V[1] ------> waka, dansi, etc
(25) TVP ------> V[7] NP IVP[DIR]
V[7] ------> tyari, srepi, etc.

However, these distinctions can be captured strictly in terms of the subcategorization properties of the relevant verbs, as represented in their lexical entries. Let us now consider Sebba's analysis of each type of directional SVC in turn. First, he proposes the following rules to account for intransitive directional SVC's like

(26) SN Kofi waka go na ini a oso:
Kofi walked into the house

(27) IVP -------> V[3] IVP [MOD,DIR]
V[3] -------> dansi, waka, ron ........
(28) IVP [MOD] ----> V[4] (IVP[MOD])
V[4] -------> go, kon ..........

Several aspects of these rules are questionable. To begin, Sebba offers no justification for his use of the feature [MOD] "Modifying" to identify the directional complements introduced by serial verbs such as kon, go etc. His use of this feature is in fact motivated by a desire to account for the behavior of certain transitive serial verbs which appear in object-sharing motion SVC's such as:

(29) SN Kofi hari a ston puru na ini a olo
Kofi pulled the stone out of the hole

The distinguishing festure of serial erbs like puru in such structures is that they share the object of the V1, and hence lack the overt object which they normally require as main verbs. It is this difference that Sebba tries to capture by positing the feature [MOD] on the serial VP, and having it introduced by a metarule. I shall discuss Sebba's analysis of these object-sharing SVC's later, and suggest an alternative to it. But even if his analysis was correct, it would not justifying positing the same feature on the intransitive serial verbs of sentences like (26) above, which behave identically in both their matrix and serial uses. Another weakness in Sebba's analysis is that rule (28) does not license a PP complement for serial go, kon, etc, though a separate rule offered for matrix go, kon, etc, does. Finally, note that rule (28) will license ungrammatical recursive strings such as

(30) SN *Kofi waka go go kon...........

There are similar problems with the rules Sebba offers for transitive directional SVC's such as

(31) SN Kofi hari a ston go (a oso)
Kofi pulled the stone away (to the house)

The following are the rules offered (1987, 125-27)[7]

(32) TVP -----> V[11] NP TVP [MOD,DIR]
V[11] -----> hari, srepi, tyari, etc.....
(33) TVP[MOD, DIR] ---> V[12] (TVP [MOD, DIR, LOC])
V[12] -------> go, kon, etc ....

Once more we see a proliferation of feature specifications which are not sufficiently motivated, since the appropriate order of constituents can be made to follow from the subcategorization properties of the verbs themselves. Part of the reason for these weaknesses is that Sebba is attempting to cover in one set of rules a variety of SVC's whose syntactic properties are not always very similar. In particular, he treats object-sharing SVC's like (29) on a par with transitive directionals like (31) where the complement is headed by an intransitive directional. This leads to the curious result in rule (33), where a transitive VP is shown as headed by intransitive go, kon. The present approach will treat the two types of SVC as distinct constructions, as noted above. For the time being, I will suggest an analysis of directional SBVC's in CEC, which will also serve as an alternative to Sebba's analysis of the corresponding structures in SN.

To begin, we may note that the role of CEC go, kon and gaan as serial verbs is directly related to their function as main verbs in independent clauses like

(34) CEC Dem go/kom/gaan (a maakit)

Note that a locative complement is optional for all three verbs. To account for the subcategorization facts of directional serials, I follow Sebba's (1987,119) proposal to use a HEAD feature DIRECTIONAL [DIR] on VP's headed by these three serial verbs. Hence the VP expansion rule which introduces them would be as follows:

(35) VP[DIR] -----> H [30], XP[LOC]
H[30] ------> go, kom, gaan

The equivalent rules in SN would differ only in the range of directional verbs permitted (go, kon, gwe, komoto, komopo, fadon etc), along with their relevant subcategorization frames. Rule (35) will generate structures like (34). The SVC's in which go, kom and gaan function as serial verbs may be accounted for in terms of VP-expansion rules which are sensitive to the subcategorization properties of both the V1 and V2 involved. I propose the following rules to license the relevant SVC's in CEC.

(36) VP ------> H[31] VP [DIR]
H[31] ----> waak, ron, flai, swim, etc.
(37) VP -------> H[32] NP VP [DIR]
H[32] -----> kyari, haal, sen, pul, etc.

Rule (36) introduces the intransitive verbs of motion and requires them to have a VP complement with the feature [DIR], ie, a VP headed by go, kom or gaan. Since the subcategorization properties of the latter are already accounted for in Rule (35), no further mechanism is necessary to ensure that the right strings are generated. Rules (35) and (36) together account for serial strings of Pattern B like the following:

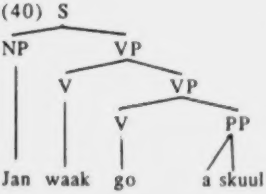
(38) CEC a. Jan waak go (a skuul)
John walked (thither) (to school)
b. Mieri ron kom (a di yaad)
Mary ran (hither) to the yard

Rule (37) introduces the transitive verbs of motion, and specifies that they too take a complement headed by go, kom or gaan, in addition to an NP object. This rule accounts for serial strings of Pattern A like the following:

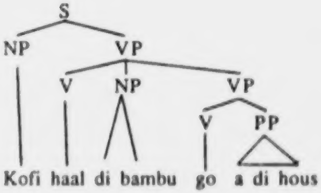
(39) CEC a. Kofi haal di bambu kom (a di hous)
Kofi dragged the bamboo (hither) (to the house)
b. Jeen tek di moni go (a bank)
Jane took the money (thither)(to the bank)

According to rules (36) and (37), sentences like (38a) and (39a) would be assigned the structures shown in (40) and (41) respectively:

(40)



(41)



### 4.2:"Purposive" go and kom:

I turn attention now to structures like the following, in which go and kom and often gaan, take a VP complement, and seem to express some type of purpose or intention.

(42) CEC a. mi hafu go bai fuud
I have to go and buy food

b. mi tel i go get moni
I told him to go and get money
c. dem gaan komplien
They've gone to complain
d. awi mos kom sii di beebi
We must come and see the baby

Similar uses of (the counterparts of) kom and go are to be found in SN and SM.

(43) SN wan man go luku wan dansi
A man went to watch a dance (Sebba 1987, 53)
(44) SM a go/ko luku di mii
He went/came to look at the child (Byrne 1987, 201)

Though the glosses assigned to such sentences usually imply that they are purposive constructions, this may not be entirely accurate. The following sentences, for instance, convey a sense of realized action, rather than of purpose.

(45) GC a. a mad bai go marid
The crazy boy went and got married
JC b. im kom shub mi doun
(S)he (came and) pushed me down (Bailey 1966, 41)[8]

My GC informants are quite adamant that sentences like (45) represent completed actions. It may well be that interpretation of such go/kom + V constructions depends on the TMA specifications involved. Sentences in perfective aspect, such as (45 a-b) are more likely to be interpreted as expressing realized action, while sentences like (42a) involving modals of intention, or future markers, tend to be interpreted as purposive. Syntactically, however, there is no difference among them.

### 4.2.1: The syntax of purposive SVC's.

As far as the syntax of these constructions is concerned, Sebba (1987, 54) offers the following comment re Sranan:

"It seems to be a property specific to go and kon (and possibly a few other verbs ....) that they may take a tenseless S' as their complement." Accordingly, he suggests that the structure of (43) is as represented in (46), where PRO is controlled by the subject of go.

(46) wan man go [PRO luku wan dansi]

This is actually a GB-type analysis, and it isn't clear how Sebba means to accomodate it within the GPSG framework he employs. In the grammar fragment he presents later (112-33), he in fact says no more about the syntax of sentences like (43). My own approach treats the complements of purposive go, kom and gaan as VP's headed by a full lexical verb (ie, a VP without auxiliaries). One question that immediately arises is whether 'purposive' go, kom and gaan are the same as 'directional' go, kom and gaan, which take a locative complement. I shall assume that they are different for two reasons:

a. Their subcategorization properties are different, and

b. There are cases which we will see later where these verbs appear in both directional and purposive uses in the same sentence, suggesting that they are quite distinct syntactically.

Accordingly, I propose the following VP-expansion rule to introduce purposive go, kom and gaan.

(47) VP [PUR]---> H[33] VP[MIN][9]
H[33] ----> kom, go, gaan[10]

I use the feature PURPOSIVE [PUR] to distinguish these uses of go, kom and gaan from their directional use. As we shall see, this will simplify our account of structures which can contain either purposive or directional complements headed by these verbs, or both. It must be pointed out, however, that this is a purely syntactic distinction, motivated solely by the different subcategorization properties of the three verbs. Semantically, go, kom and gaan express the same basic sense of direction whatever the complement-type that follows them.

Such a rule would generate sentences such as (42-45), while excluding ungrammatical sequences such as the following:

(48) CEC a. *Mieri hafu go a see shi moda
b. *Jan kom go miit dem.

### 4.2.2:"Purposive" SVCs with kom/go/gaan.

The syntactic behaviour of kom, go and gaan as discussed in the previous section is relevant to their use as the $V_2$ in SVCs such as the following[11]:

(49) CEC a. yu beta go hoom go sii bau cha chilan
You'd better go home and see about your children

b. di hosban kom in ko(m) luk biebi
The husband came in to look for the baby
c. den ah gaan ga tiif presh pinut bota
Then I went and stole fresh peanut butter
(50) CEC a. dem kyari di pikni go bied
They took the child to bathe
b. an neks de im bring sponj kiek kom gi wi
And the next day he brought sponge cake to give to us.

Similar constructions are common in the Surinamese creoles, as the following illustrate.

(51) SN a. yu musu go na kownu go aksi en wan wroko
You must go to the king to ask him a favor
b. a feroysi kon bay pranasi na Faraliba
he move come buy plantation LOC Para river
He moved and bought a plantation on the Para
(Sebba 1987, 61-63)
(52) SM dé waka go/ko hondi di pingo
They walked (that/this way) to hunt the pig
(Byrne 1987, 213)

Neither Sebba nor Byrne offers a detailed syntactic analysis of such structures, though Byrne (1987, 214) does point out that go and ko in (52) "are simply additional examples of directionals", identical to those discussed in section 3.1 above.

Bailey (1966) offers an analysis of similar structures in JC which treats them as "reduced co-ordinate (structures) with verbs of motion." Thus she suggests:

> Given a sentence of form X-Vmo-an-Vb-Y, in which the action in Vb follows upon that in the verb of motion (mo), it is possible to delete an. Thus im go "she went", and im tel mis Jien "she told Miss Jane", which when conjoined would yield im go an tel Mis Jien "she went and told Miss Jane", may be reduced to give im go tel Mis Jien."
> (1966,133-34).

She later suggests that the same analysis applies to sentences like the following, which parallel (49-52) above.

(53) JC mi a go bak a di plies go si
I'm going back to the place to see

Roberts (1980, 22) has rightly challenged Bailey's analysis, pointing out that the Vmo-an-Vb structure has most likely developed from the "more

African-type structure" Vmo-Vb under the influence of standard English. The present analysis will not deal with the more "decreolized" co-ordinate structures in which an is employed as the "link" between verb phrases, though these can be handled by minor adjustment to the rules to be presented below.

I propose the following rules to generate sentences like (49) and (50) in CEC.

(54) VP ----> H[34] (XP[LOC]) VP[PUR]
H[34] ---> waak, ron, drayv, swim, flai, go, kom, gaan, etc.

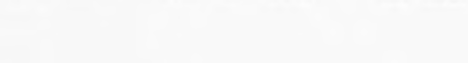
(55) VP ----> H[35] NP (XP[LOC]) VP[PUR]
H[35] ---> kyari, bring, sen, drayv, pul, haal, etc.

Rule (54) introduces the intransitive verbs of motion, specifying that they take an optional locative argument, as well as a purposive VP complement headed by go, kom or gaan as introduced by rule (47) above[12]. Together, rules (47) and (54) will produce sentences like those in (49) and (51). Notice that the motion verbs introduced by rule (54) are generally the same as those introduced by rule (36) earlier, except that go and kom can themselves function as matrix verbs in structures generated by rule (54), but not those generated by rule (36).

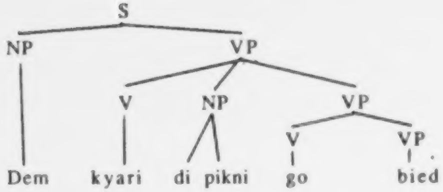
Rule (55) introduces transitive verbs of motion which have an obligatory object, an optional locative argument, and an identical VP complement to the intransitives. Together with rule (47), it generates structures such as those in (50).

According to these rules, sentences like (49b) and (50a) would have the structure shown in (56) and (57) respectively.

(56)



(57)



It has been suggested - e.g. by Washbaugh (1981,94) and Byrne (1987,243 fn.7) - that the serial verbs go, kom and gaan function as complementizers in CEC when they introduce VP complements as in (56) and (57) above. Both Washbaugh (p.96) and Byrne (p.214) further claim that in Saramaccan go and ko in the same function are true verbs which have not been "reanalyzed" as complementizers. Washbaugh argues that both CEC gan and kom are reduced to ga and ko respectively when they are used as serial verbs introducing a VP complement. This reduction reflects the operation of a denasalization rule which affects unstressed grammatical morphemes like the past tense marker men [m ]. Both the denasalization and the lack of stress suggest to Washbaugh that gan and kom "serve a grammatical rather than the semantic function which is served by the stressed directional verbs" (1981, 94).

In my view, however, there is no incompatibility between the "grammatical" function performed by kom, gan and go in "purposive" SVCs, and their status as verbs. I have already presented evidence to show that these serial verbs have the same subcategorization properties as they do when used as matrix verbs. It may well be that since their serial function is similar to that of complementizers, they have been "grammaticized" somewhat in that direction. But the evidence is that they still behave essentially like verbs.[13]

Notice finally that we also find more complex serial strings like the following, in which both 'directional' and 'purposive' go, kom and gaan appear:

(58) CEC a. di pikni ron kom ina di haus kom iit
The child ran into the house to eat.
b. Mieri kyari di pikni go a aspital go sii dakta
Mary took the child to the hospital to see the doctor.

Such strings provide support for the decision reached earlier to draw a distinction between the directional and purposive uses of these verbs.

Sentences like these, as far as I know, have not been discussed in the CEC literature. Likewise, neither Sebba nor Byrne discusses such structures for SN and SM, though the former does consider certain "object-sharing" motion SVC's that are partly similar in structure to (58). These will be considered in the next section. It would be strange, however, if structures equivalent to (58) are not found in the Surianamese creoles.

Strings like (58 a & b) are licenced by the VP-expansion rules (59) and (60) respectively.

(59) VP -------> H[34] VP[DIR] PP VP[PUR]
H[34] -----> waak, ron, swim, flai, etc..
(60) VP -------> H[35] NP VP[DIR] PP VP[PUR]
H[35] -----> kyari, haal, pul, sen, etc ...

These rules are quite similar to those that license directional and purposive SVC's discussed earlier, being in a sense a fusion of the two rule schemas. For the sake of economy, we might wish to collapse the rules for directional SVC's with (59) and (60) above, making the 'purposive' VP complement optional, as follows:

(59') VP ------> H[34] VP[DIR] (PP) (VP[PUR])
(60') VP ------> H[35] NP VP[DIR] (PP) (VP[PUR])

Notice that these rules will license strings like the following, which my GC informants find awkward, though not unacceptable.

(61) GC Jan ron go go sii di biebi.
'John ran (thither) to see the baby'

It must also be pointed out that cases in which both a directional and purposive complement appear require that both complements be introduced by the same serial verb, thus ruling out unacceptable strings like the following:[14]

(62) CEC a. *di pikni ron kom ina di haus go iit
b. *Mieri kyari di pikni go a aspital kom sii dakta

These selectional restrictions are purely the consequence of the semantics of the verbs involved, and as such are best left to the semantic component to rule out as incoherent.

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## 4.3: "Object-sharing" motion SVC's of Pattern C:

I turn attention now to those serial verb constructions which follow Pattern C as described above for Sranan. These involve two transitive verbs which appear to share the Figure as their common (object) argument.

The relevant SVC's fall into two patterns, the first involving two transitive motion verbs, as in (63), and the second involving tek alone as V1, with a V2 that is not (necessarily) itself a motion verb, as in (64).

(63) SN a. Kofi hari a ston puru na ini a olo (Sebba 1987,122)
Kofi pulled the stone out (of the hole)
b. Kofi fringi a tiki trowe na ini a dyari (S. p.126)
Kofi threw the stick away into the garden
(64) CEC a. i tek mi klooz trowe (Jaganauth, 1987, 66)
He threw my clothes away
SN b. Kofi teki den krosi kibri (S. p.131)
Kofi hid the clothes

My CEC data do not contain any examples of SVC's like (63) involving two transitive motion verbs (though 64a is a possible exception). Notice that the function of the V2 in these cases is to express Path/Direction, like the intransitive serial verbs discussed earlier. The transitive V2's which perform this function in SN are a restricted set, consisting of puru 'pull out', trowe 'throw away', and poti 'put'. It would appear that this strategy has yielded in CEC to the English strategy of using particles and/or prepositions to express these semantic components, as in

(65) CEC Jan pul a ston outa di hool

Both types of SVC pose essentially the same problems for a syntactic analysis. One problem is how to identify the class of verbs which may function as V2 in each type. This is easy to decide in the case of sentences like (63), which allow only three Path/Directional V2's, as already indicated. In thecase of sentences like (64), however, the answer is not as straightforward. Sebba (1987, 60) acknowledges that he is unable to determine what decides which lexical verbs are permitted as $V_2$ after teki in SN sentences like (64b). For instance, there seems to be no explanation why (64b) is grammatical, while (66) is not.

(66) SN *a teki a fisi bay
s/he take the fish buy (Sebba 1987, 60)

The explanation may lie in pragmatics rather than syntax. For instance, in (64b), we can assume that the action of selling fish implies that the fish is under the control of the agent. On the other hand, the action of buying implies no such control, hence (66) is pragmatically unacceptable. Jaganauth (1987, 72) also suggests that part of the function of *tek* in GC SVCs is to assign responsibility to the agent for the action.[15] For instance, a non-SVC such as (67a) contrasts with an SVC such as (67b), in that the former implies no deliberate action on the part of the subject while the latter does.[16]

(67) GC a. i nak mi (He hit me)
b. i tek stik nak me
He hit me with a stick

Sebba's (1987, 59) claim that "the semantic function of *teki* is ... negligible" may therefore not be accurate. If so, the following solution to the problem of specifying the possible $V_2$'s in object-sharing SVC's like (64) suggests itself. Since *tek* implies deliberation on the part of the agent, then only V2's which are clearly volitional and describe actions under the agent's control are acceptable. This might be left to the semantics to decide. These facts also suggest that there is a semantic link between the use of *tek* in "object-sharing" SVC's such as (63-64) and its use in sentences like (67b) which have traditionally been treated as instances of the use of "Instrumental" *tek*. The latter construction, however, is syntactically quite distinct, and will not be discussed here.[17]

The second problem is how to account for the fact that the V2 object cannot appear in these object-sharing SVC's, while allowing for the fact that the same V2 requires its object in a main-verbal use. Compare (63a) above to (68).

68. SN Kofi puru a ston na ini a olo

Sebba's solution to this is to propose the following metarule:

(69) TVP[DIR] --------> NP, w
⇓
TVP[MOD] --------> w

This is intended to state that "for every TVP[DIR] which contains a directional transitive verb like *puru*, *trowe*, or *poti*, there will be a corresponding TVP[DIR,MOD] which contains exactly the same elements except for the NP object of V[DIR]." (1987, 124).

Certain aspects of Sebba's treatment are doubtful. The derived ID rule is intended to licence only complements to transitive motion verbs in an SVC, yet Sebba provides no mechanism to ensure this, and prevent the licensing of ungrammatical strings like

(70) *Kofi puru na ini a olo.

In addition, Sebba's strategy once more leads to the proliferation of redundant, sometimes confusing feature specifications on the complement VP's. Thus, Sebba (1987, 127) claims that the following rules, supplemented by metarule (69), license strings such as (63b).[18]

(71) TVP -------> V[11] NP TVP[MOD, DIR]
V[11] ------> hari, fringi, srepi, tyari, yagi, etc
(72) TVP[DIR,LOC] ----> V[13] NP PP[LOC]
V[13] -------> poti, trowe

The mismatch on the feature specifications for the 'modifying' directional complement VP casts some doubt on the accuracy of these rules. Moreover, there is considerable redundancy, since it is actually the ID rule derived from (72) through metarule (69), and not (72) itself, that should license the directional VP complement. In essence, however, Sebba's approach seems to be on the right track, and I shall suggest how it might be modified below.

This problem of accounting for the argument sharing characteristic of SVC's has received a fair share of attention in the recent literature (Baker 1989, Schiller 1990b). The problem is not confined to the object-sharing SVC's under discussion here, but extends to cases where the V1 object appears to be the subject of V2, as in (73):[19]

(73) CEC a. Mieri kyari di pikni go a skuul
SN b. Kofi fringi a buku fadon
Kofi throw the book fall down
Kofi threw the book down

Baker (1989, 523) criticizes analyses such as Jansen et al's (1978) and Sebba's (1987) on the grounds that their account of the syntax of these SVC's is achieved "at the cost of relying on (largely unexplored) rules of a semantic component to determine which NP's are arguments of which verbs." Baker's own analysis, using a GB framework, attempts to account for argument sharing in terms of the Projection Principle and the theta-criterion. Thus object-sharing SVC's involve both V1 and V2 assigning theta-roles, leading to double-marking on the object. On the other hand, cases like (73) imply for Baker that the intransitive V2 assigns its theta-role to the object of V1, rather than the subject of V1. As Schiller (1989: 418) points out, this account is motivated by considerations internal to GB theory, which do not apply to other approaches such as GPSG. However, the question it addresses is a real one, which any theory must account for. Schiller, for his part, proposes that argument sharing can be accounted for in the Autolexical framework by treating thematic relations as semantic case. But he does not spell out the proposed analysis, noting instead that "many details remain to be worked out with regard to thematic roles," and adding, rather optimistically, that they "do not seem to involve any potentially major problems." (1990b, 416).

My own approach assumes that thematic roles are properly the business of the semantics to account for. However, this does not mean that my account of the syntax of SVC's leaves it entirely to the semantics to account for argument assignment. On the contrary, as we have seen, the subcategorization properties of each verb are directly represented in the syntax. In this sense, GPSG explicitly satisfies the Projection Principle, which requires that the subcategorization properties of a verb be satisfied throughout the syntax. Moreover, in my approach, the restrictions on what verbs can combine in an SVC, and the resulting order of those verbs and their arguments are explicitly represented in the lexical ID rules. I reiterate this here because Baker (1989,515) has claimed that such restrictions have not been accounted for in strict formal terms before. All that is needed to account fully for object-sharing SVC's is some device to account for the fact that V1 and V2 share one object.

To accomplish this, I propose the following revised version of Sebba's metarule (69) which avoids the problems pointed out earlier.

(74) VP --------> H[11] NP w

⇓

VP[DIR] ------> H[13] w

This eliminates the specification that the VP is transitive, for reasons already given. Removal of the feature [DIR] on the "input" rule, and its introduction on the "output" rule, allows us to preserve the distinction between the main clausal status of the former, and the complement-like status of the latter. The input for metarule (74) would be ID rule (75), a revised version of Sebba's rule (72) above.

(75) VP ---------> H[13] NP PP[LOC]
H[13] ------> puru, poti, trowe.

The rule which licenses the relevant SVC's would be itself a revised version of Sebba's rule (71), as follows:

(76) VP --------> H[11] NP VP[DIR]
H[11] ------> hari, fringi, srepi, etc

Note that this rule specifies that the complement VP is [+DIR], thus ruling out unlicensed strings like

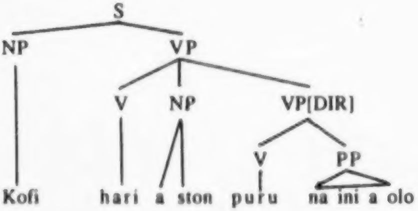
(77) SN *Kofi hari a ston puru a ston....

On the other hand, rule (75) will license main clausal strings like (78a) and rule out (70), repeated here as (78b).

(78) SN a. Kofi puru a ston na ini a olo
b. *Kofi puru na ini a olo

The rules suggested here are more economical as well as more accurate than Sebba's. Together, they license trees like the following:

(79)



### 4.3.1: Object-sharing SVC's in CEC.

As pointed out at the start of Section 4.3, CEC appears to have none of the object-sharing motion SVC's just described for Sranan. However, we do find SVC's of this type with tek as V1, as in (64). I propose the following rule to license such strings:

(81) VP ------> H[36] NP VP[MOD]
H[36] ----> tek. (SN teki, hari, srepi etc)

The feature MOD (Modifying) which I have borrowed from Sebba's analysis is intended to distinguish the object-less VP complement to the tek clause from its regular counterpart, in which the object appears. I propose again to derive such complement VP's through a metarule of the following sort:

$$\begin{tikzcd}
\text{(82) VP} \arrow[r, dashed] & \text{H[80] NP w} \\
\Downarrow & \\
\text{VP[MOD]} \arrow[r, dashed] & \text{H[80] w}
\end{tikzcd}$$

Verbs of SUBCAT [80] would include items like trowe, dashwe etc in CEC, and trowe, kibri, seri etc in Sranan, whose semantic properties allow them to appear as V2's in these SVC's.

### 4.3.2: Addendum:

In addition to the patterns already discussed for CEC, there is a rather limited set of SVC's involving a few transitive motion verbs such as kyari, sen, etc, which are difficult to place. The following illustrate:[20]

(83) CC a. Di pikni ded aredi, le wi kyari beri am
The child is already dead, let's carry (her) and bury her.
GU b. De kyari am draiv am
They drove him
c. Komin iista ol a wi hav egz, yu no, wi kya iit.
Coming on Easter, all of us have eggs, you know, we carry (and) eat (them).

These examples are quite similar to the "object-sharing" SVC's of Pattern C, just discussed. Note however that, unlike the latter, the object follows $V_2$ in (83a), appears after both $V_1$ and $V_2$ in (83b), and doesn't appear at all in (83c). As far as I can tell, these idiosyncracies are characteristic only of kyari+V combinations, and perhaps a few others. Such combinations are probably best treated as 'phrase-words' in the sense of Zwicky (1990a), or lexical idioms, in the sense of Sebba (1987). The placement of the 'shared' object after the V+V combination would appear to support this interpretation.

A similar interpretation appears to be applicable to cases involving the motion verb sen, as in the following examples from GC (Jaganauth 1987, 66, 69) and JC (Alleyne 1980, 93).

(84) GC a. Dem sen kaal mi
They send call me (They sent for me)
b. Shi sen tel mi se le mi mos bai solfamol
She send tell me say let me must buy Solfamol
She sent (a letter) telling me I should buy Sulfamol.
JC c. im sen aks mi fi kom elp im
He send ask me for come help him
He sent (a message) (to) ask me to come help him.

These constructions, unlike the "object-sharing" cases, may involve some kind of subject sharing. Alternatively, the understood "object" of sen may also be the understood "subject" of the $V_2$ (kaal, tel, etc). In any case, the $V_1+V_2$ combination seems to act like a 'phrase-word', not requiring overt appearance of any $V_2$ argument. This behavior is restricted to combinations involving sen as $V_1$ and some verb of telling or reporting as $V_2$.

Another example worth mentioning is the following, from Alleyne (1980, 168):

(85) JC Di haak kech di chikin iit it
The hawk caught and ate the chicken

This falls in line again with "object-sharing" SVC's of Pattern C, except for the fact that the $V_2$ object is overtly realized as a pronoun. Note once more that kech is interpretable as an agentive motion verb, which would bring (85) further in line with the 'object-sharing' pattern.

It's not clear how productive this pattern is in contemporary CEC. Sentences like (85) seem impressionistically to represent relics of a construction-type that was once as productive in CEC as it still is in the Surinamese creoles. The requirement of an overt object on the $V_2$ may be the initial effect of decreolization. As suggested above, a further stage in this process is represented by the introduction of conjunction an to link the serial clauses - a strategy typical of mesolectal CEC varieties. Further research is clearly needed to uncover how much of the original 'object-sharing' pattern continues to survive in contemporary basilectal CEC.

Finally, it is worth noting that another pattern involving an intransitive motion verb as $V_1$ followed by a $V_2$ which is difficult to predict have been attested for GC and Sranan (Alleyne 1980, 93-94)

(86) CC a. i na go eebl lef ron kom ful am.
*He won't be able (to) leave (and) run here to fill it.*
SN b. a ben e waka heri foto (e) seri sani na strati
He PAST ASP walk whole town (ASP) sell thing LOC street
He used to walk the whole town selling things in the street.

Again, further research may well show such patterns to be more productive than the published data would suggest.

Conclusion:

The present discussion has focussed on just a few types of SVC in the New World creoles. A fuller examination would reveal that SVCs in these languages constitute a fairly diversified range of structures, with the serial verbs themselves performing a variety of grammatical functions. This diversity of functions is reflected in the different syntactic behaviours displayed by the serial verbs involved. There are two respects in which I hope the present analysis has contributed to our growing understanding of these constructions. The first has to do with their constituency, and the second with their typical functions.

With respect to the first question, there is still no consensus among researchers working on a variety of languages. On the one hand, there are GPSG approaches such as Sebba's and the present one, as well as the GB approach of Baker (1989), which assign different constituent structures to 'coordinating' and 'subordinating' SVC's. On the other hand, there is the Autolexical analysis offered by Schiller (1989), who follows Filbeck (1975) and Schachter (1974) in proposing the following recursive phrase structure rule to account for both types of SVC.

(87) S ------> $(X'')$ $(N'')$ $V''^{*}$[21]

There appears to be general consensus that such a phrase structure is appropriate to coordinating SVC's, so we need not concern ourselves further with this type. However, Schiller's objection to analyses which posit a different constituent structure for 'subordinating' SVC's deserves some attention.

Schiller argues that a 'flat' structure is more appropriate to these constructions than the hierarchical structure proposed by Sebba (and myself) since "the subordination is more semantic than syntactic." (1989: 407). He further claims that Sebba "provides no independent syntactic as opposed to semantic justification for the syntactic structure." (Ibid.

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Emphasis in original). First, it is not clear to me what it means to say that the subordination is more semantic than syntactic. This implies that the subordination, which Schiller acknowledges to exist, must be treated as a semantic rather than a syntactic phenomenon - which is a curious view. Secondly, it is not true that Sebba provides no independent syntactic grounds for the hierarchical structure he proposes for subordinating SVC's. These are outlined in Section 3 above, and discussed in more detail, along with additional criteria specific to SN, in Sebba (1987, 108-16), and elsewhere in his book. A crucial criterion, as we have seen, is that 'coordinating' SVC's are subject to Ross' constraint, while 'subordinating' types are not. Baker (1989) also distinguishes the two types on grounds similar to Sebba's, while Nylander (1985) argues on independent grounds for a hierarchical structure for SVC's involving the serial verb se "say."

Schiller further blames Sebba's choice of analysis on the properties of GPSG itself, claiming that "Sebba must account for the semantically subordinate nature of the material in the lower clause, and GPSG does not allow non-isomorphism of syntactic and semantic components." (1989: 407). This criticism appears to be directed at the version of semantics offered in Gazdar et al (1985), but there are alternative ways of handling semantic interpretation within a GPSG framework which Schiller overlooks. Schiller's own approach, using an autolexical framework, places a heavy burden on the semantic component to explain the different properties of the two types of SVC - properties which are essentially syntactic, as argued above. In fact, it is not made clear in Schiller (1989) precisely how the syntax works in his approach. In particular, it is not clear how the restrictions on possible combinations of V1 and V2 (and V3), as well as the membership of each, are specified. If this must be done in the semantics, then it places a heavy onus on this component. By contrast, the GPSG approach allows us to specify the possible sequences of (members of) V1, V2, etc. fairly precisely in the syntactic component, in terms of the subcategorization properties of the verbs themselves. Relatively few selectional restrictions are left to the semantics or pragmatics to account for or rule out. In addition, as noted before, this achieves a general match between the syntax and semantics of these constructions which is surely desirable.

Apart form the lack of consensus on the constituent structure of SVC's, there has also been disagreement on the typical functions of serialization. The generalizations expressed by some researchers on this question usually capture only part of the picture. Such generalizations range from Bickerton's (1989, 33) suggestion that "serial clauses are most often adjuncts", to Sebba's (1987, 216) claim that serialization is "an argument-increasing strategy". Both statements are true, but only partly so.

Bickerton's view applies to several of the SVCs considered in this paper, involving serial verbs which either themselves act as adjuncts to the matrix clause, or introduce serial strings which act as adjuncts. Thus serial kom and go may head clauses which indicate directionality which is an optional component of the sentence. Similarly, serial pasa may express both the notion of Path, and the notion of Degree, both of which are part of what Lyons (1986, 496) refers to as "circumstantial roles associated with a situtation". Such circumstatntial roles also include components like the time, place, manner and purpose of an activity, which tend to be referred to by means of syntactically optional expressions such as adverbs or adverbials.

Sebba's view seems to apply only to SVCs involving the serial verb give. His argument is that languages which have a strict limitation to two arguments per verb compensate by using serial strings to introduce the goal or benefactive of an action. A stronger version of this claim is offered for SM by Byrne (1987, 257) who argues that "one reason for serialization is the supposed lack of NP positions in which to place the GF-θ's of a verb." In this view, serial strings perform the roles associated in other languages either with prepositions, which are marginal in SM, or with complementizers, which are non-existent in SM. (1987, 252). While this view offers a wider perspective than Sebba's, it still applies only to a sub-class of SVCs in SM and other creoles.

There are several types of serial string in CEC which cannot be interpreted either as adjuncts, or as additional arguments, to a matrix verb. For instance, in CEC tek serial clauses, the instrumental expression is itself part of the sentence nucleus, by contrast with English, where the instrumental expression is normally an adjunct. There are also other SVCs involving co-ordination of some type, which do not fit any of the generalizations mentioned above. Clearly, then, no single statement can capture all of the functions that may be performed through the strategy of serialization. It is hoped that the present discussion has at least made this clear.

## Notes

* I wish to thank Arnold Zwicky and other participants at the Mini Conference on serial verbs (Ohio State University, May 1990), for their helpful comments on this paper. Any shortcomings that remain are, of course, entirely my responsibility.

1. Nylander (1985, 20, fn 9) informs us that Christaller (1875) was probably the first to make reference to this construction in an African language (Twi), while Schuchardt (1914) was apparently the first to identify SVC's in a creole language (Saramaccan). Also, Voorhoeve (1975) tells us that the term "serial verb" was coined by Stewart (1963).

2. Zwicky (1990b) discusses other distinctions that might have to be made, while Schiller (1990) presents a typology of SVC's.

3. Examples (10a) and (10b) are taken from Bailey (1966), pages 133 and 52 respectively, and (10c) from Alleyne (1980, 168).

4. It would also appear, from the limited data available, that SM also has a wide range of "subordinating" SVC's, but little research has been done to uncover these. Byrne (1987), the most detailed account of serialization in SM so far, confines his attention to structures which CEC by and large shares with SM.

5. It seems more accurate to say that kom and go indicate direction toward or away from some reference point established in the discourse, which may or may not be the speaker.

6. There is a growing use of prepositions and particles imported from English to express the notions of Path and Direction in CEC. Sebba (1987, 47) notes a similar tendency in Sranan, where younger speakers tend to use oyt (Dutch uit "out of") to replace the generalized locative prepositions na or fu, after the directional serial verb puru ("remove").

7. In fact, Sebba offers a more feasible pair of rules on pages 120-21, as follows:

TVP ---> V[7] NP IVP[DIR]
IVP[DIR] ----> V[2] PP

However, he appears to discard these in favor of (39) and (40). (1987, 125)

8. Notice how similar the use of kom in (45b) is to the use of the so-called "semi-auxiliary come" in Black English Vernacular (Spears 1982). The BEV construction in which come precedes a verb in the present-participle (He come walkin in here like he owned the damn place) may well be a residue of an earlier pattern of use akin to that in CEC. Mufwene (1989, 21) claims that the BEV construction has no counterpart in creoles, and suggests that this is a weakeness in the creolist argument that BEV has creole roots. However, not only do we find a similar use of come in basilectal CEC, but we also find an indentical use of come + V-in in mesolectal varieties such as TC-eg He come talkin to me like he know me. The TC construction conveys the same sense of resentment and/or indignation noted by Spears for BEV.

9. I use the feature [MIN] "MINIMAL" to refer to a VP without auxiliaries, ie, a 'bare' lexical verb.

10. As pointed out earlier, gaan behaves exactly like kom and go, though as a serial verb it may only follow Past or Perfective verbs.

11. Examples (56a-c) and (57b) are taken from Washabaugh (1981, 91-93), who in turn takes them from a variety of sources, including Turner (1949) for GU, LePage & Cassidy (1967) for JC and his own data from Providence Island Creole (PIC).

12. Again, it must be recalled that gaan as serial verb introducing a VP complement is severely restricted in its privelege of occurrence, following only Past or Perfective verbs, and usually matrix gaan.

13. See Sebba (1987, 81-82) and Jansen et al (1978, 143) for further arguments in support of the verbal status of go and kon in Sranan, which apply also to go and kom in CEC.

14. Washabaugh (1981, 94-95) claims that sentences like (69a) are acceptable to his PIC informants, but acknowledges that sentences like (69b) are not.

15. Jaganauth (1987, 87 fn 28) also mentions the use of "reduced" SVCs with tek such as i tek an baks mi (He slapped me), which are used mainly by schoolchildren when complaining to their teacher that another child (deliberately) assaulted them.

16. Bailey (1966, 134) seems to support Jaganauth's interpretation. She offers the following example, which I have excluded from the discussion because it contains a coordinating conjunction: mi waif tek mi guolring a dash-we. Bailey glosses this as "My wife deliberately threw away my gold ring," thus supporting the view that tek conveys a sense of deliberate action.

17. See Sebba (1987, 132-33) for some discussion.

18. Rule (71) corresponds to Sebba's rule (170b), p.125, and (72) to his rule (174b), p.127.

19. The fact that the verbs in an SVC share a common subject is not a problem, since both are dominated by the same VP sister to the subject NP.

20. Example (83a) is a GC sentence from Rickford (1986, 223); (83b-c) are Gullah examples from Mufwene (1988, 4-5). I have taken the liberty of adjusting Mufwene's phonemic spelling somewhat to bring it in line with the conventions used in this study.

21. 'V′*' is Schiller's abbreviation for serial V constructions as opposed to other kinds of serialization involving, eg. V+V structures (V*), auxiliary verb + V′ (V + V′*) etc. (Schiller 1990).

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# Tense Marking in Serial Structures*

Francis Byrne
Shawnee State University, Ohio

## 1. Introduction

The motivation for this paper is two-fold. It will first propose an alternative analysis to, and hopefully resolve, a debate between Byrne (1987, to appear) and Bickerton (1984, 1987) on the one hand and Boretzky (to appear) (among others) on the other. The debate revolves around the relevance of the apparently unique non-verb-initial tense marking in Saramaccan (hereafter SA) serial structures in relation to tensing in Atlantic Creole[1] and West African serials. The position of Byrne and Bickerton is that SA serial tense marking is partial evidence for the spontaneous generation of the structures in initial deep creolization,[2] while Boretzky et al. view creole serialization, including that found in SA, as constituting transfer from substrate languages during the creolization process. The second aim is to present a unified theory of the different interlanguage tense marking instantiations within serial structures by arguing that each different pattern is ultimately a result of at least scope, with morphosyntactic spreading then a possibility.

The major questions which arise from the paper's objectives are: 1.) if there is an intrinsic identity between tense patterns in the selected serializing languages under scrutiny, and 2.) if there is some level of identity, then what are the grammatical processes involved, their significance in serial structures, and the implications for the creolization process. While the languages under discussion are an extremely limited subset of the world's serializing languages,[3] they nevertheless exhibit a wide (and perhaps representative) range of variation in their tense marking patterns, and significantly also share the same intrinsic typological features associated with serialization. The languages to be evaluated here should therefore be sufficient to understand the reasons for the variation.

This paper is divided into three parts. It will first briefly summarize the substrate vs. spontaneous generation debate as it applies to serial tense marking in Atlantic creoles and West African languages (especially the Kwa subgroup). I will then discuss the variability of such marking in Saramaccan (hereafter SA), followed by analyses of similar and different serial tense patterns in a number of other languages. I will argue that there is an essential unity among all serializing languages included in this paper despite the apparent differences because of the distinct but interrelated processes of scope and spreading. That is, if a language exhibits serialization (regardless of whether it is a creole, a West African language, or some other areal or typological variety), then it must have the same scopal properties for tense marking in serial structures despite its overt tense marking pattern. Finally, I will detail some implications of the discussion for creoles and the creolization process.

## 2. Serialization and the Serial Controversy

We can generally define serialization, and by implication serial verbs, as the phenomenon among many creole and non-creole languages where verbs, or verb-like formatives, function in various roles which are normally performed in non-serializing languages by prepositions, adverbs, complementizers, or single verbs (in the case of verbal extensions where one verb modifies another and a serializing language's lexical repertoire is thereby expanded - see Sebba (1984)). In adding to the definition, it is also generally assumed that serials have the following characteristics:[4]

(1) a. Tense[5] is marked once, *usually* with the initial verb, or tense is repeated with all serial verbs in the string.

b. There are no overt coordination or subordination markers immediately preceding serials.

c. The second and subsequent occurrences of coindexed subjects may be phonologically null (i.e. are empty categories); second and subsequent occurrences of coindexed objects will be null.[6]

### 2.1. Substratists and Serials.

The substrate position is that there is a direct relationship between the presence of serialization in creoles and the original substrate contact languages. Arends (1989a,b), Holm (1986, 1987, 1988), Huttar (1975, 1981, 1985) and Lefebvre (1986), among others, claim that there are strong lexical, structural, and/or semantic links between Atlantic creoles and especially the Kwa group of African languages. They conclude that this cannot be by chance and represents a perfect illustration of transfer based on present-day identity. Included among various serial claims for the process, Sebba (1987:214) makes the fairly strong observation that there must be a direct causal relation between creoles and their substrate languages since "a relatively small proportion of the world's known creoles have serial verbs, and ... these are precisely the ones which have well-documented substrate input from serializing languages." And Faraclas (1989), for his part, concludes that the range and type of serials in Tok Pisin of Papua New Guinea and Nigerian Pidgin English duplicate what occurs in the surrounding substrate languages. This can only be explained by adducing transfer for creole serialization.

The literature on the substrate view is both extensive and impressive in its volume. The bottom line, however, seems to consistently revert back to the following syllogism: if serialization, for example, occurs in substrate languages, and they were present in the seminal contact situation, then it will appear in the creole. Taken another way, the extreme view is that all creole serialization, and therefore the associated tense marking patterns, is a direct result of transfer from other languages.

### 2.2. Universalists and Serials

The contending view, in its strongest form (Bickerton 1981, 1984), states that serialization is not a product of substrate languages during creolization, but rather is a result of children having to develop a language almost *ex nihilo* from inadequate and deficient pidgin input. Serialization, then, is a direct reflection of our innate linguistic knowledge. In a less all-inclusive interpretation, Bickerton (1984b, 1988) explains that the bioprogram is best observed in the more radical creoles such as SA,[7] with others being progressively less "pure" because of more elaborated pidgin input (i.e. more successful $L_2$ acquisition). He even allowed for substrate influence in some instances at the 1985 Amsterdam Creole Workshop.

In support of serialization being a spontaneous development in at least radical creoles, Byrne (1987) found that the synchronic grammar of SA has a *productive* categorial repertoire consisting strictly of nouns and verbs as major cagegories[8] and determiners,[9] conjunctions, and tense and aspect markers as minor categories. From the remaining normally assumed categories (i.e. taken from an Indo-European perspective), there are instances of prepositions in the language, but the only productive member of the class is the general locative a 'in, on, into, from, to, etc.'. The remainder such as ku 'with' or fu 'for'[10] are functionally marginal and can generally be expressed through alternative syntactic means.[11] There is likewise no evidence for the major cagegory *adjective* in predicate contexts,[12] nor for complementizers. With very few exceptions, "complementizers" such as preclausal fu 'for, obligation' and táa/táki 'say, that' exhibit the diagnostics of a verb. Nor are adverbs a consistently productive class; their functions are often achieved through the use of serial verbs.

The categorial limitations of synchronic SA, along with the primacy of one and two NP arguments within a clause (i.e. no three-argument strings with contiguous NP objects of the type John gave THE MAN THE PEN) and aspects of the Saramaka's chronological and demographic history (see Byrne (1987: Chapter II), Price (1976; 1983a,b)), lead to the view that early SA contained the minimum syntactic attributes necessary for the status of a natural language and, taking the ideas of Bickerton's bioprogram to their obvious conclusion, represented the universal bedrock of human language. Moreover, to express the critical functions of the absent categories in the incipient language, the early Saramaka were forced to generate maximal syntactic output from minimum syntactic input. Because of this situation, they adopted a serial strategy in which verbs were used in place of the "missing" formative-types. Given the facts and analysis, then, serialization in at least radical creoles is not in itself a part of universal grammar (i.e. the bioprogram), but is a necessary by-product of such languages' phrase structure and categorial status. Hence, rather than use adverbs, prepositions, or contiguous object NPs, the SA utilized a verbal strategy as in (2).

(2) a. a féfi dí wósu kábá — ADVERBIAL-LIKE SERIAL
he paint the house finish
'He painted the house already.'

b. a téí góni súti dí pingó — PREPOSITION-REPLACING SERIAL
he take gun shoot the pig
'He shot the pig with a gun.'

c. Kófi bái dí búku dá dí muyée — ARGUMENT INTERVENING SERIAL
Kofi buy the book give the woman
'Kofi bought the woman the book.'

Each of the SA verbs in (2) is also within separate finite clauses. Part of the evidence for a clausal status is both empirical and theory-internal within the Government and Binding (GB) model of Chomsky (1981, 1982, 1986). The motivation for the finiteness of such items, however, is entirely empirically based in that most verbs in a serial string can be independently tense-marked (those that do not allow such are best viewed as infinitives).[13] This means that the SA tense marker bi may overtly appear before any or all the verbs in (2) with no change in meaning. Consider (3,4,5) below.

(3) a. a bi féfi dí wósu kabá
he Tense(TNS) paint the house finish
'He had painted the house already.'

b. a féfi dí wósu bi kabá
...TNS...
'He had painted the house already.'

c. a bi féfi dí wósu bi kabá
..TNS... ...TNS...
'He had painted the house already.'

(4) a. a bi téí góni súti dí pingó
he TNS take gun shoot the pig
'He had shot the pig with a gun.'

b. a téí góni bi súti dí pingó
...TNS...
'He had shot the pig with a gun.'

c. a bi téí góni bi súti dí pingó
..TNS... ...TNS...
'He had shot the pig with a gun.'

(5) a. Kófi bi bái dí búku dá dí muyée
Kofi TNS buy the book give the woman
'Kofi had bought the woman the book.'

b. Kófi bái dí búku bi dá dí muyée
...TNS...
'Kofi had bought the woman the book.'

c. Kófi bi bái dí búku bi dá dí muyée
...TNS... ...TNS...
'Kofi had bought the woman the book.'

The first verb in (3-4-5a), being the matrix, unsurprisingly allows tensing. What is thought to be different from other serializing languages, however, is that this marker may appear with no change in meaning either before the second serial only (3-4-5b) (or any subsequent serial with additional verbs in a string), or with all verbs (3-4-5c). In contrast, scholars have often typified West African and Atlantic creole serializing languages as having either verb-initial tense marking such as in (6) and (7), or tense copy as in (8).

(6) a. á ká lâh câk usá? ha a Bamileke (Hyman 1971)
he past take pot come give me
'He brought the pot for/to me.'

b. *á láh càk ká usá? ha a
...past...

c. *á láh càk usá? ká ha a
...past...

(7) a. a bin tek di buk go na skul Krio (Williams 1971)
I TNS take the book go LOC school
'I brought the book to school.'

b. *a tek di buk bin go na skul
...TNS...

(8) meyɛɛ adwuma memaa Amma Akan (Schachter 1974)
I-do-PRET work I-give-PRET Amma
'I worked for Amma.'

The obvious tense-initial correspondence between a West African language like Bamileke in (6) and Krio in (7), which is representative of the great majority of Atlantic creoles, would naturally lead to a conclusion of transfer. Even the SA tense copy pattern in (3-4-5c) corresponds to the dialect of Akan in (8) and also offers a causal explanation. But independent tense marking in SA such as in (3-4-5b) is problematic in that it appears to be unique and thus constitute evidence against substrate influence. However, upon a more extensive analysis, there is in fact an underlying tense marking unity among all serializing languages, although as I will argue in section 4.0, such a conclusion does not necessarily warrant serial transfer among creoles and their corresponding substrate languages.

## 3. Scope and Spreading

The main problem with serial tense-marking phenomena is not in interpreting the range of speech to which they apply (although this is an interesting question), but in determining why and how there is such great variability within and between the languages. In adding to the serial characteristics delineated in (1), a fourth basic premise is that the temporal orientation of the verbs in any such string must be interpreted as the same. Since serials are part and parcel of a single proposition, and retain a verbal categorial status while undertaking the grammatical functions or semantic extensions imposed by some central or matrix verb, if there were different temporal readings on such verbs, they would constitute separate propositions. Thus (9) with different overt temporal markers on dá 'give', for example, ceases to be a serial and two propositional matrices are the result.

(9) Kófi bi bái dí búku tá dá dí muyée
Kofi TNS buy the book TNS/ASPect give the woman
'Kofi had bought the book (and) is giving (it) to the woman.'

Similarly, (9) without the tense/aspect marker tá may have a non-simultaneous interpretation (i.e. nonserial) if bi is thought to only apply to bái 'buy'.

(10) Kófi bi bái dí búku dá dí muyée
'Kofi had bought the book (and) (then) gave (it) to the woman.'

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An explanation of (9) and (10), as well as noninitial or repeated tense marking in SA (3-4-5b,c) and other languages, seems to revolve around the separate but, in terms of this paper, interrelated processes of scope and spreading. I will begin by first discussing the concepts in relation to SA, and then continue with other languages.

### 3.1. Scope

I define scope as the interpretative range over some syntactic domain of some semantic property. A more technical definition within logic and linguistic semantics is that scope "is the argument term(s) of an operator" (Pieter Seuren, p.c.). As interpreted in Chomsky (1981, 1986), Kim and Larson (1989), and McCawley (1988a,b), among others,[14] the term *operator* signifies an item such as a tense or negative marker (Janssen 1983:55) whose import semantically affects (i.e., has scope over) a determined linguistic range and which, in a configurational sense, must dominate the affected segment of language. In other words, the element whose meaning emits scopal properties (i.e., an operator) must "look downward over" (David Dowty, p.c.) (i.e., c-command)[15] its domain (its argument term(s)) .

In a simplified illustration, observe that the interpretative range of the negator -n't in (11a,b) varies with its surface placement.

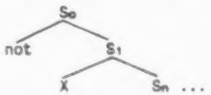
(11) a. I deliberately didn't ask her. Crystal (1985:271)
'I did not ask her.'

b. I didn't deliberately ask her.
'I did ask her, but accidentally.'

In (11a) -n't follows deliberately and precedes the VP, giving the impression of its being in Infl. Now this is the optimal position for a negative element to have wide scope over an entire clause, which it does as seen in the gloss. The result is that the action is seen as premeditated and successful. In (11b), however, with -n't (significantly) preceding deliberately, there is a narrow scopal interpretation with the negative element only affecting the adverb (-n't + deliberately = accidentally); the overall result is that the action here is seen as unintentional.

Schematically from a logic perspective, the negative element not (= -n't in (11a,b)) is in the appropriate dominant position to the left in the diagram, with its argument term(s) (its scopal domain) appearing to the right.

(12)



In the case of (11a), not is interpreted as affecting the entire clause and so I ask her would be in the X position. Alternatively, not would only dominate deliberately in (11b) since this is the extent of its scopal domain.

### 3.1.1. Scope and Saramaccan Tense Operators

In turning to scopal properties of tense in SA serials, it seems clear that the tense marker is a scopal operator. A principal diagnostic to determine such is if ambiguity is present resulting from tense interpretation. In (10), this is exactly what we find. bi before the initial verb bái 'buy' can be interpreted as only having scope over the initial clause. This clause thereby receives a past-before-past (roughly pluperfect) reading, with the second clause having a simple past orientation (as is normal for "bare" nonstative verbs in creole languages). The result is two separate events, a fact which the gloss of (10) reflects. Alternatively, if bi is thought to apply over the entire sentence, then a quite different serial reading will occur: 'Kofi had bought the book for the woman'. The ambiguity which results from the two different interpretations is directly a result of the scope of bi. This, in turn, supports the view that the item is a scope-bearing operator which, to be consistent with patterns discussed in the literature for other languages, must c-command (structurally dominate) the constituents under its influence.

An adequate scopal analysis of the tense marking variation in SA serials is now possible. In turning once again to the SA data in (5a-c) as a representative sample of the language's tense marking patterns (repeated below as (13a-c)), notice that no matter which verb has such marking, the same exact interpretation ensues.

(13) a. Kófi bi bái dí búku dá dí muyée
Kofi TNS buy the book give the woman
'Kofi had bought the woman the book.'

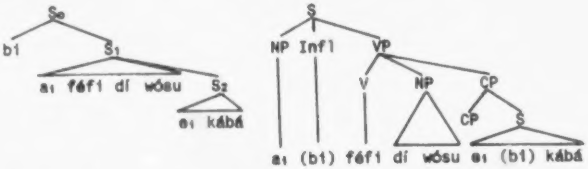
b. Kófi bái dí búku bi dá dí muyée
...TNS...
'Kofi had bought the woman the book.'

c. Kófi bi bái dí búku bi dá dí muyée
...TNS... ...TNS...
'Kofi had bought the woman the book.'

Such identical readings signify that the scopal domain of bi remains over the entire serial string regardless of whether the item appears before the first verb bái 'buy', the second dá 'give', or both.

However, because bi is not overtly present before the higher verb in sentences such as (13b), the question arises as to how the item can have scope over both. Since tense in SA (and other languages) is an operator and thereby a scope-bearing unit, then it would seem reasonable to assume that structural dominance (i.e. presence before the first verb) would also be necessary in this case. In fact, this is exactly what happens in (13b). Because tense appears before the higher verb in (13a) and (13c), we know that such marking is possible. Moreover, the import of bi, past before past, unambiguously applies to bái 'buy' in (14b) exactly as in (13a) and (13c) (as indeed it must since there is but a single semantic (but not syntactic) proposition to which a tense orientation can apply - see Bickerton (1990), Bickerton and Iatridou (to appear), Binnick (1976) and Borer (1989), among others, for analyses and/or identification of the phenomenon).[16] One reasonable assumption, then, given the surface level variation of overt tense before initial verbs in (13a,c) and the necessity for the scope-bearing element to be in a dominant position, is that bi is also present before bái 'buy' in (13b), but is not phonologically overt. However, this is an aggravating (but perhaps avoidable) complication forced onto the analysis by the theory. An alternative is to represent the semantics and syntax separately as in (14a,b) below.

(14) a. Semantics b. Syntax



The parentheses in (14) signify that the enclosed element is present but without phonological form, and the subscripts indicate that all such tense marking must be the same. The result of (14) is that at the level of tense marking, all SA serials actually have the same identical underlying pattern.

The surface variation itself, and especially that of (13b), is probably a result of some sort of phonological economy. If an item does not have to be articulated for the import to be achieved, then this will more than likely result in variable occurrence. The overall variability, in turn, could have developed some sort of stylistic significance within the community as a whole (Solange Lira, p.c.), producing an adequate level of motivation to maintain the patterns.

Finally, based on the previous discussion, it seems that serial characteristic (1a) should be reformulated in terms of scopal properties. As it is now, it merely constitutes a description of the *overt* tense-marking patterns of most but not all serializing languages (SA and at least two Portuguese creoles and one French creole are the exception - see section 3.3). It thereby misses the greater generalization that a serial string must have the same temporal orientation; that is, the scope of tense-markers must apply equally throughout a serial structure. A better rendition of (1a), then, should be something like (15).

(15) The scope of serial tense markers must range throughout the serial string.

## 3.2. Spreading

Spreading, for its part, was originally a term which Goldsmith (1976) developed for autosegmental phonology as a way of explaining the extension of nasalization and tone from some segmental locus. Subsequently, Caskey (1987, 1989) and McCawley (1988a:318, footnote 12) were the first, as far as is known, to apply the term to levels of morphology and syntax. Following Byrne (1989a), I define the concept for purposes of this paper as the appearance of redundant morphemes throughout a domain with those formatives/constructions whose properties allow it. In other words, a particular formative or morphological element may be repeated in some or all appropriate positions throughout a specified segment of speech if the language or dialect allows such. As

Carlson (1983) and McCawley (1988:261, footnote 27)[17] observe, what this signifies is that the repetition of an item in the sense used here does not add up to multiple semantic instantiations of a particular meaning; rather, there is but a single meaning with reduplications of the content-bearing element.

### 3.2.1. Specifics of Spreading

The phenomenon appears to be quite common in the world's languages, but for reasons of space limitations, I will limit the discussion to English, Dutch, Old Norse, SA, and a representative sample of Atlantic creoles and West African serializing languages.[18] In beginning with English, we find, for example, that morphophonemic extensions such as quicker picker upper give a sense of phonological spreading throughout the phrase by the repetition of the conveniently homophonous -er suffixes with comparative (quicker) and agentive (picker upper) imports. In the latter case and at the morphological level, however, there are not two separate agentive readings, but just a single one with scope over both picker and upper. Morphophonological comparative and superlative repetitions with identical scopal properties also occur in children's speech and substandard English in such phrases as *more smarter* and *most greatest* (Carlson, p. 76).

The phenomenon is likewise both historically and synchronically common in English with negation. While there are multiple negative markers in such informal synchronic utterances such as (16) below and in the Old English example in (17) from Millward (1989:93), there is again but a single semantic negator with scope over each clause.

(16) He isn't going nowhere nohow.

(17) ... and naðer ne heoldan ne lăre ne lage ne manna
and neither not we-observe not teaching not law not of-men

swā swā we scoldan
we ought-to

'... and neither do we observe wisdom, law, and [the affairs] of men as we ought to.' (translation added)

Note that alternatives to multiple negation in the informal English in (16) are the synonymous he is*n't* going anywhere anyhow and the gloss to the Old English segment in (17). That a single syntactic negative marker is possible in both (but allowing for the fact that such was not customary in Old English, but only in its reflex version) illustrates the presence of one semantic negator in the sentences.

A common approach to such multiple forms in the past was an analysis along the lines of agreement and concord (e.g., Labov 1972). However, the first, or agreement, implies particular morphological marking and substance over a stretch of speech, with scope not necessarily being present (e.g. subject-verb agreement in English). Concord, for its part, is often thought to be synonymous with agreement (see Crystal 1985), but in stretching the traditional view a bit, we could envision it to apply to the kind of data discussed here. In any case, to utilize the terminology of agreement or concord may be misleading because of its traditionally *different* application to certain types of data. A clearer and perhaps more efficient way of looking at the phenomena should be through scope and spreading. For instance, in all of the above examples it appears that a prerequisite for spreading is that there be semantic scope over the area where the proliferation of elements takes place. Thus the Old English and informal synchronic English examples with multiple negation, and even something like *more smarter*/*most greatest*, could not occur if the scope of negation and the comparative/superlative did not include the entire phrase or clause. This generalization could not necessarily be made if we attributed the phenomena to agreement and concord as traditionally viewed.

Finally, the application and restrictions on spreading at the levels of phrase and clause appear to be basically similar in all critical respects. As a first approximation (and certainly subject to confirmation and a more in-depth treatment than can be given here), the data suggest that an element whose scopal properties extend over a segment of speech can only replicate itself in those positions which the language's syntax would naturally and nonexceptionally allow. Thus, the comparative and superlative forms in *more smarter* and *most greatest*, and all negative elements in (16) and (17), appear in positions in which they would independently occur in the language. If adequate discussion and examples were presented, then, we would find that in no instance do the various forms appear in positions which are not warranted by the grammar.

In a similar vein, Carlson (1983:76) presents Old Norse data from Gordon (1927) which shows that the language could redundantly mark definiteness in NPs, but always with just a *single* 'definite' meaning.

(18) a. *þat* *it* helg*i* sæ *ti*
the the holy-def seat def
'the holy seat'

b. haf*it* *þat* *it* dju*pa*
sea-def the the deep-def
'the deep sea'

In a possible reflex of Old Norse, modern Norwegian likewise allows multiple determiner marking to express degrees of definiteness. In (19a), *det* 'the' and the suffix -*et* 'the' together produce a demonstrative, but with single marking (either *det* or -*et*), a less definite 'the' reading is achieved (19b,c).

(19) a. *Det* stort hus*et*
the large house-the
'that large house'

b. *Det* stort hus
the large house
'the large house'

c. Hus*et*
'the house'

The result of (18) and (19) is that with the scope of 'definiteness' over the entire NP in Old Norse and Norwegian, the languages permit spreading only in those positions which the grammar normally allows. This is shown most clearly in (19a,b,c).

Finally, Pieter Seuren (p.c.) offers interesting evidence from Dutch. He notes that pluralization in the language is often doubly marked with both German and Dutch suffixes, in that order.

(20) a. German: ei 'egg', eir 'eggs'
kind 'child', kinder 'children'

b. Dutch: ei 'egg', eiren 'eggs'
kind 'child', kinderen 'children'

While the Dutch plurals in (20b) are obviously a result of German influence, still Seuren points out that German is intelligible to Dutch speakers and they consequently understand eir 'eggs' and kinder 'children' to be plural. They likewise are aware that there are double plurals on their nouns, but because one of the plurals is "foreign" and the pattern is linguistically institutionalized, these factors militate against any other output (i.e single pluralizer). In any case, because there is plural scope over each noun, such spreading is understandable and certainly unremarkable based on the previous data.

### 3.2.2. Saramaccan Serials and Spreading

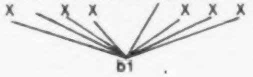
An account of spreading with SA serials is now straightforward. Since tense is an operator in the language, it must be in a dominant position (before the first verb) in order to have scope over an entire serial string. And because of the nature of serialization (see sections 2 and 3.1.1, and (15)), the import of tense must apply to the entire serial domain rather than to just the clause where it is found. As exemplified in section (13), (14) and below, these facts allow the tense marker to appear only once before the initial verb (21a), or to replicate itself in a kind of semantic reiteration (21b) when the conditions found within a particular constituent warrant it.

(21) a. a bi tsá dí meliki gó a dí konde
he TNS carry the milk go to the village
'He had taken the milk to the village.'
'He had carried the milk (and) (then) went to the village.'

b. a bi tsá dí meliki bi gó a dí konde
..TNS... ...TNS...
'He had taken the milk to the village.'

As mentioned or discussed in numerous publications,[19] all clauses with few exceptions are finite in SA. One of the many diagnostics of such status is the possible appearance of overt tense. Thus, since the verbs in (21a,b) are finite, they would naturally allow the full range of markers appropriate for this status. If, additionally, finite verbs are within the tense scope domain of a (configurationally) higher tense operator, then that tense marker could, logically, be repeated with the appropriate lower constituents (i.e. finite verbs). Note (22) (from a similar diagram in Caskey (1989)).

(22) a tsá dí meliki gó a dí konde 'He had taken the milk to the village.'



As (22) illustrates, SA allows tense marking only before verbs within the same tense scope domain. Moreover, it does not allow bi in inappropriate contexts such as before any nonverbal constituents (or infinitival verbs).

In regard to tense marking exclusively on a lower serial verb, this would seem to be the preferable option for at least two reasons. First, tense on the second verb only (or subsequently in longer serial strings) in (23) below is not ambiguous as is verb-initial only tense marking (21a).[71]

(23) a tsá dí meliki bi gó a dí konde
...TNS...
'He had carried the milk to the village.'
*'He carried the milk (and) had gone to the village.'

The second gloss above is impossible because of a SA strategy in consecutive action sentences of mapping events onto a temporal sequence of occurrence order. Since bi go would be prior to the unmarked tsá 'carry' in (23) with a consecutive action interpretation, that reading is ungrammatical. As a serial, however, (23) would be preferable to (21a) because of its greater clarity due to nonambiguity. Second, (23) is also phonologically more economical and thereby represents less effort than (21b). Since in either case a serial reading is the only possible interpretation and the scope of any tense marking has to apply to the entire string, through spreading a SA speaker can opt to give phonological form to tense marking on *all* or any *one* of the lower serial verbs. All in all, then, when all factors are taken into consideration (but especially tense and spreading), we find that there really is nothing unique or unusual about the SA tense marking patterns; they simply represent a perhaps somewhat idiosyncratic patterning due to the interaction of the language's morphology, syntax and semantics.

## 3.3. Tense and Scope in Other Serializing Languages

In a fairly brief analysis, a delineation and discussion of serial tense marking phenomena in other serializing languages shows that there really is no difference from SA. All are explainable through the dual processes of scope and spreading. The patterns which will be reviewed (and should exhaust the possibilities in all serializing languages), are 1.) variable creole marking like SA, 2.) African tense copy and echoic tense, 3.) verb-initial only marking, and 4.) SOV tense-final serials.

### 3.3.1. Creole Tense Copy and Non-Verb-Initial Tense

I originally thought that the non-initial tense marking pattern such as in (232) was unique only to SA. Recently, however, additional data have become available which show that SA is not alone among creole languages in its tense marking pattern. While (24) and (25) below from respective Portuguese creoles are not serials (the languages do not utilize the strategy), still the data exemplify tense scope and spreading like SA serials in selective contexts and are therefore useful. Consider (24) through (27).

(24) a. N pudi-ba fasi kila — Guinea-Casamance Portuguese
I can -ANTerior do that — Creole (GCPC) (Peck 1988)
'I could do that.'

b. N pudi fasi-ba kila
...ANT...
'I could do that.'

(25) a. el podeba konta — Cape Verdean Kriolu (CVK)
he can-ANT sing — (Caskey 1987)
'He could/be able to sing.'

b. el pode kontaba
he can sing-ANT
'He could/was able to sing.'

c. el podeba kontaba
..ANT.. ..ANT
'He could/was able to sing.'

(26) a. li ta nu ke masé bor kaj lå — El Callao, Venezuela,
she hear us ASP walk around house the — French Creole (ECFC)
'She heard us walking around the house.' — (Byrne, Cabrera
& Ruiz 1989)

b. li ta nu ke masé ke bor kaj lå
..ASP.. ..ASP..
'She heard us walking around the house.'

(27) a. zot pran balye koko bat Kazer — Seselwa Creole (SC)
they take broom coconut beat K. — (Bickerton 1989)
'They beat the Kaiser with a coconut broom.'

b. zot ti pran balye koko ti bat Kazer
...TNS... ...TNS...
'They beat the Kaiser with a coconut broom.'

Both the Portuguese creoles, GCPC and CVK, allow either the modality or primary semantic verb to have independent overt tense marking (24-25a,b) with no change in meaning. Alternatively, CVK also allows tense copy as in (25c), again with the same meaning. While the aspect marker ke in (26) from ECFC, for its part, is neither tense nor indicates anteriority as in GCPC or CVK, still it shows that the copy pattern is not limited strictly to Portuguese creoles (of which SA is also an example). Note that, like tense marking in CVK and SA, the ASP marker ke may appear either after masé 'walk' or after both masé and bor 'around'[20] with identical meaning.[21] Finally, some SC speakers accept (27a), but those who do not find (27b) with overt tense marking on the matrix and subordinate serial verbs to be acceptable.

From the viewpoint of scope, the overall variable patterning of -ba in GCPC and CVK, ti in SC, and perhaps ke in ECFC (if we presume aspect to

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have scope - a debateable point) reflects the extent of the respective tense and aspect scopal domains as discussed for SA. The possibility, however, of either the overt appearance of -ba only on lower verbs (24-25b) or tense or aspect copy (25c, 26b, 27b) are a result of spreading. Because each serial verb is finite (although more work and data are needed to determine such a status for ECFC), the conditions are appropriate for spreading to occur. In effect, then, (24), (25), (27) and perhaps (26) are explicable in the same terms as for tense marking in SA.

### 3.3.2. African Tense Copy and Echoic Tense

The reasons for tense copy in other serializing languages such as Akan in (28) (repeated from (8)) are exactly the same as discussed for SA, CVK, and ECFC.

(28) meyɛɛ adwuma memaa Amma    Akan (Schachter 1974)
I-do-PRET work I-give-PRET Amma
'I worked for Amma.'

On one level, the above overt tense marking (verb-final vowel lengthening) reflects the sentence's serial scopal domain, and on another, the actual appearance of preterite lengthening could not be possible if each respective verb did not have finite status.

Somewhat more interesting are those instances in West African languages where there is a reduced form of the copy, or what I call echoic tense. Consider (29) from an Akan dialect different from (28), and (30) from Yoruba.

(29) a. m' a- fa sekan e- twa    Akan (Balmer & Grant 1929)
I PERF. take knife PERF. cut
'I have cut with a knife.'

b. me-ba- fa sekan e- twa
I FUT take knife FUT cut
'I shall cut with a knife.'

(30) mò Ń mú ìwé bọ̀    Yoruba (Stahlke 1970)
I PROG take book come
'I am bringing a book.'

In regard to (29), Boretzky (to appear) notes that "tense is marked twice, ... and the second tense/aspect marker has a neutral shape indicating agreement only." Thus, e in (29a,b) is the same form in both sentences even though the matrix clauses have different marking with a 'perfective' and ba 'futurity', respectively. This indicates that e with the lower verbs has no value of its own, but like a pronominal, is dependent on the nature of the matrix marking for its significance. In a somewhat similar manner, (30) likewise has reduced marking on the second serial. According to Schachter (1974:260),

> the form bọ̀ ... is a suppletive form of the verb wá 'come'. Generally bọ̀ occurs after the progressive prefix wá in all other contexts. The fact that it is bọ̀ rather than wá that occurs ... shows that Yoruba has

> *traces* (my emphasis) of the tense-aspect agreement pattern (i.e. tense copy - my insertion) that is systematically present in Akan.

The significance of (29) and (30) is, first, that the reduced forms e and bò again reflect the mandatory single scopal domain of a serial structure. In this light, e and bò indicate the extent of the domain. Second, such reduced forms also illustrate that spreading is not a prerequisite for serialization like scope. In fact, if a language undergoes change from one with a preponderance of finite clauses to widespread infinitives, then the primary condition for spreading (i.e. finite clauses) will likewise cease to exist. However, because change is not abrupt, but procedes gradually (see Lightfoot 1979), we should expect that during or after change that residues or traces of prior states remain.[22] Thus, e and bò in (29) and (30) most likely represent evidence for a prior finite status for at least serials in Yoruba and the variety of Akan in (29). In some sense, then, spreading still exists in these languages, but only in selected environments and in reduced form.

### 3.3.3. Verb-Initial-Only Marking

Tense marking only on the initial verb of a serial string is common in West Africa (see (6)) and represents the overwhelmingly predominant pattern among the Atlantic creoles (7). Consider (31) from Sranan of Suriname.[23]

(31) a. Roy e tyari a pikin go na oso — Sranan
Roy TNS/ASP carry the child go LOC house — (Jansen, Koopman & Muysken 1978)
'Roy took the child home.'

b. *Roy tyari a pikin e go na oso
...TNS/ASP...

c. *Roy e tyari a pikin e go na oso
...TNS/ASP... ...TNS/ASP...

The only position where tense and/or aspect marking is allowed in these languages is on or before the initial serial verb (31a); marking on any other verb in the string renders the sentence ungrammatical (31b,c).

The significance of (31) is that tense scope encompasses the entire serial structure as it must, but spreading is nonexistent. The reason for this is that the conditions in most creoles are not conducive to the process; second or subsequent serial verbs are not finite (but infinitives) and thereby do not allow tense (nor other marking). Thus, the operant distinction between serializing languages like (31), whether creole or noncreole, and those like SA and the Akan dialect represented in (26) is that of their serials' finite or nonfinite status. Given one or the other condition, then, specific features will manifest themselves, among which is the presence or absence of overt tense marking.

### 3.3.4. SOV Tense-Final Serials

The major obvious difference between SOV and SVO languages is a reversal of many pre- and post-positionings within clause and phrasal constituencies. In regard to tense scope and spreading, however, the situation remains exactly the same, with the exception that the processes emanate from the right in SOV languages rather than from the left as exemplified in previous sections. Consider first the data from Ịjọ below.

(32) a. erí okí mu toru bein-mi  Williamson (1965)  
he swim go river cross-TNS/ASP  
'He went swimming across the river.'

b. áràú zu-ye ákí buru teri-mi  
she basket take yam cover-TNS/ASP  
'She covered a yam with a basket.'

In both (31a,b), the tense marker mi (which, according to comments of Givón (1975), is better typified as tense/aspect) appears clause-finally as is characteristic of SOV languages. This then is the matrix default position for such marking in both serial and nonserial structures. Spreading in these languages is consequently a result of the scopal properties of markers like mi, for example, flowing rightward to the other constituents in the serial string and ~~thus~~ allowing a semantically identical marker such as the tense/aspect suffix -ni in (33a,b) below to appear if the conditions are acceptable (i.e., if a clause is finite).

(33) a. ominí barí-ni andá-mi  Williamson (1965)  
they repeat-TNS/ASP wrestle-TNS/ASP  
'They wrestled again.'

b. erí ogidi akí-ní indi pei-mí  
he machete take-TNS/ASP fish cut-TNS/ASP  
'He cut a fish with a machete.'

The situation in (33) thus seems comparable to those instances of tense copy exemplified for Akan, SA and the various French- and Portuguese-based creoles. In addition, with the contrast especially between akí 'take' Instrumental clauses in (32-33b), it also seems apparent that Ịjọ speakers, like those of other languages explicated, have the option of single or tense copy marking.

## 4. Conclusions

The obvious conclusion from the previous discussion is that there is a basic unity among the various serial tense (and aspect) marking patterns in whatever language serialization appears. The unifying factor is that of scope. No matter where overt tense marking occurs, for a segment of speech to be a serial structure, the same tense orientation must apply throughout. If it does not, it would necessarily be interpreted as something else. A second factor, spreading, explains the variably overt noninitial tense marking; if second or subsequent verbs have finite status, then verb copy or lower verb only marking is permitted. Moreover, such marking, given its apparent commonality, is best looked upon as being a natural consequence of the properties of serialization rather than in any way being exceptional to these languages.

In relation to the questions posed in section 2 concerning the origin of serialization in creole languages (i.e., whether due to substrate transfer or spontaneous generation), Given the facts and analysis, previous claims as to the uniqueness of noninitial serial tensing in languages such as SA, and the impossibility of its transfer from West African languages because of a lack of congruence, really have little relevance if the analysis in this paper is correct. Nor is there any relevance with assertions of serial transfer in initial creolization based on tense marking patterns (see for example Boretzky (to appear)). What we have seen in the analysis is that tense scope and spreading are simply features of a particular language typology. That is, if a language is going to adopt a serializing strategy, then at least scope, and possibly also spreading, will mandatorily be a part of the tense strategy. There is therefore nothing extraordinary about *SA serial tensing*; it is a language-specific result of particular morphological, syntactic and semantic features. The basic operational principles involved in tense scope and variable tense marking, however, are the same in whichever language serialization manifests itself.

While tense scope and spreading are typological constants, the possibility of overall serial structure transfer is another matter. There undoubtedly are close similarities in the semantics of particular serial-types in Atlantic creoles and West African languages. And the syntax of the structures is for all intents and purposes apparently the same (based on imperfect knowledge of the phenomenon from ongoing and somewhat contentious research and claims). From a congruence standpoint, then, there would seem to be a causal relationship between the substrate languages in the contact situation and the evolution of serialization in a resultant creole. The positions of Faraclas (1989) and Sebba (1987) (see section 2.1) would therefore appear to have a semblance of merit.

However, to ascribe transfer to all creole serialization is jumping the gun a bit. For one, Byrne (1987) has shown that a serial strategy is a perfectly natural consequence of certain categorial and phrase structure features (see section 2.2). Arguments to the contrary have not proved effective (e.g. Muysken 1987).[24] Even though there were serializing languages in the original SA contact situation, the demographics of the people's early history most probably rendered transfer ineffective. At the least (and this is my contention), serializing substrate languages could have contributed serial reinforcement to a naturally spontaneous process and grammatical stratagem.

It would seem, then, that the only viable approach to serialization in these languages is to leave open the possibility of both transfer and universal processes operating within creolization. In support, studies by such scholars as Philip Baker (1982), Byrne (1987, 1988b), Hancock (1986), and Mufwene (1987) have concluded, contrary to previous thinking, that creolization does not apply equally in the creation of creole languages. Rather, due to extralinguistic factors, these languages may emerge with a greater or lesser degree of input from both the superstrate and substrate languages and will consequently be variably creole from the onset. The implications of such thinking could mean that serialization develops in creoles either as a result of the syntactic dynamics of the emergent system (e.g. SA), or, given possibly less radical creolization, a product of some level of transfer. When and in what degree one process contributes to serialization over the other should be the center of investigative efforts, not whether one or the other is *exclusively* the cause of serialization in creole languages.

## Notes

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1. As far as is known, Hancock (1971) first coined the term. It refers to those creoles found in West Africa, the Caribbean, and eastern North and South America.

2. Since creolization is a process, there are greater or lesser degrees of application in any given creole setting depending on numerous linguistic and demographic factors. In other words, as numerous scholars have concluded (e.g., Philip Baker 1982; Bickerton 1984; Byrne 1983, 1987, 1988b; Hancock 1986; Mufwene 1987; and Carden and Stewart 1988), creolization does not apply equally in the creation of creole languages. Some of these languages are therefore "deeper" than others in that the former betray more features characteristic of the typology. (See Byrne (1987: Chapters II and VIII) as well as footnotes 7 through 11 in this paper for more references and details.)

3. Goodman (1985:127) notes that "serial verbs ... are common in West Africa, India, Southeast Asia, the Far East, and New Guinea (and perhaps elsewhere)."

4. The characteristics represent a compendium of those found in Bickerton (1989), Byrne (1982, 1984b, 1987, 1989b), and Jansen, Koopman and Muysken (1978).

5. This is a metaphorical use of the term *tense* to save, for purposes of this paper, unnecessary discussion. As extensively elaborated on in Byrne (1987, 1989a) and the theoretical literature cited in this paper, "tense" markers exemplified here may actually range somewhere between tense and aspectual readings (a characteristic common to creoles and many West African languages), but all function in the same way as tense operators in scopal considerations such as discussed in the literature for English and other similar European languages.

6. For more details on the fairly vigorous current debate on the various argument positions within serial structures, and whether one or another actually exist, see Mark Baker (1989), Bickerton and Iatridou (to appear), Byrne (1985b, 1986), and Sebba (1987), among others.

7. This view has been expressed by a theoretical cross section of creolists, but not for the same reasons. See Alleyne (1979), Bickerton (1984), Byrne (1987; 1988a,b), and Washabaugh (1981) for the details and reasoning behind the various positions.

8. The other major categories postulated in the theoretical literature are prepositions and adjectives. See Chomsky (1981, 1982) for more details on both major and minor categories.

9. From a non-theoretical viewpoint, determiner forms are usually looked upon as articles and demonstratives in many languages, but in others such as creoles, a wider distribution of functions is clearly evident. In SA, for example, not only do determiners and determiner-like formatives function as articles and demonstratives, but also as relative clause markers, subordinating conjunctions, and as markers of syntactic focus. See Byrne (1988a) for more details.

10. Muysken (1987) takes exception to the claim that prepositions in SA are few in number and a marginal category. He contends that there are in fact many more prepositions in the language than detailed in Bickerton and Byrne (1985) and their marginal status is thereby overplayed. However, I have some serious misgivings with Muysken's contentions.

First, Muysken (p.c.) notes that the data utilized for his conclusions came from De Groot (1977), a Dutch-Saramaccan dictionary with the usual information associated with such a volume. That is, there are the usual meanings presented for each entry, assertions of categoriality, and one or two sentence examples, but there certainly are no analyses to support the categorial claims. Moreover, in Muysken's paper he likewise simply states that certain formatives are prepositions without analysis of any sort.

Second, most of the items which Muysken claims to be prepositions are questionable, even without analysis. té 'until', for instance, exhibits *verbal characteristics* for some speakers in the southern dialect areas (Byrne 1987:237f). All but two others (and even these are doubtful without analyses to support a prepositional categorial status) are either wh-forms (subject to movement), or members of an extensive class of subordinating conjunctions (Byrne 1988a).

Given the previous discussion, there seems to be no reason to modify the positions that prepositions are marginal in SA and that they are not a viable category as a result of the most radical creolization. (See Bickerton 1984 and Byrne 1987.)

11. For example, the Instrumental role can either be expressed prepositionally (i) or serially (ii).

(i) a kóti dí kumálu ku dí fáka
he cut the kumálu (type of large fish) with the knife
'He cut the fish with the knife.'

(ii) a téi fáka kóti dí kumálu
he take knife cut the large-fish
'He cut the fish with the knife.'

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Of the two, (ii) seems to be the older, original SA structure primarily because the prepositional pattern in (i) seems to be currently supplanting the serial strategy in terms of its ever increasing functional load.

Possession also has alternatives of expression: through a postnominal prepositionally fu (iii), or positionally in a possessor-possessed juxtaposition (iv).

(iii) koósu fu Johánesi tene bigá a bi tá féti
clothes of Johánesi torn because he Tense Aspect fight
'Johanesi's clothes are torn because he was fighting.'

(iv) Johánesi koósu tene bigá a bi tá féti
Johânesi clothes...
'Johanesi's clothes are torn because he was fighting.'

For more details on the Instrumental role and fu in SA, see Byrne (1984a,b; 1985b).

12. What we might call predicate adjectives in many languages exhibit the full range of verb diagnostics in SA and other creole languages. For example, like unambiguously verbal forms, tense and modality markers can precede these forms (i), and they can copy in sentence-initial position for emphasis (ii).

(i) dí wómi bi sa wísiwási
the man Tense Modal worthless
'The man would have been worthless.'

(ii) wisiwási dí wómi wísiwási
worthless... ...worthless
'The man is really WORTHLESS.'

See Sebba (1986) and Seuren (1986) for many more details along these lines.

13. Briefly, as part of the empirical evidence for a clause status, the possibility of overt tense marking warrants the presence of a subject for a variety of reasons within GB theory. On the empirical side and supporting the theory, overt subjects are variably attested for on the part of some speakers in selected contexts, including the Instrumental serial (i) (Byrne 1984b, 1987) and complements of perception verbs (Byrne 1989a).

(i) $a_i$ téi dí pau ($a_i$) náki dí dágu
he take the stick (he) hit the dog
'He hit the dog with the stick.'

(ii) $a_i$ sí $en_j$ ($a_j$) tá kô a dí wôsu
he see him (he) ASP come to the house
'He saw him coming to the house.'

Neither (i) nor (ii) is in any way construed by the speakers as constituting separate sentences or conjuncts (for empirically verifiable reasons).

A second bit of a theory-data combination for serial clausal status involves movement phenomena. In all cases where there are serials of the type illustrated in (i) or (3) and (4) in the text (or any other sentences for that matter), any and all NPs may move through questioning or focus to sentence-initial position. The only way that this could happen, presuming multi-clausal status for serials and GB theory, is for the NP to temporarily "land" in a lower preclausal slot before continuing to sentence-initial position.

These considerations (i.e. subject, verb, tense, and movement), along with comparisons with other attested structure types, both lead to a conclusion that each serial is within a separate clause and militate against the non-clausal analyses of Mark Baker (1989) and Sebba (1987). See Byrne (1986) for more details.

14. Enç (1986, 1987), who analyzes tense as not having scope at least in some contexts, is the exception. However, the tense marking patterns in the serial structures under discussion here exhibit the appropriate diagnostics for scopal properties, so we assume such with justification.

15. A viable definition of c-command is from May (1985). This is:

> α c-commands β if and only if all maximal projections including α include β.

16. Borer (1989), and adopted in Bickerton and Iatridou (to appear) and Bickerton (1990), offers an alternative analysis to that presented here. Briefly, she postulares an anaphoric AGR (which subsumes anaphoric tense and pronominals in subordinate contexts) to account for data like (13a,c) (but not (13b)). Specifically, as summarized in Bickerton (1990), the theory proposes the following:

> Assuming the subordinate clause is attached at I-bar [from a government and binding (GB) perspective - my insertion], this would bring [serial clauses like dá dí muyée 'give the woman (=for/to the woman)' in (13a,c) - my insertion] within the governing domain of matrix INFL... Subordinate INFL would then be bound by matrix INFL and would obligatorily carry the same features [like serial feature (1a)]... However, since subject and INFL are coindexed, there would be a chain of binding and coindexing linking matrix subject, matrix INFL, subordinate INFL and subordinate subject, so that the latter must bear the same index as matrix subject [as serial feature (1a) stipulates].

While the theory is elegent and accounts for much of the data, and indeed in most respects could substitute for the scope and spreading approach in this paper, still the analysis here is preferable for a number of reasons.

First, the concept of scope and spreading is more general, and applies to much more data (see section 3.2) than the notion of anaphoric tense. Now the repetitive tense marking shown here certainly is anaphoric, but spreading would seem to subsume it.

Second, the specifics of anaphoric tense are narrowly theory-bound and leave out some pertinent data. One such bit is the sentence in (13b) with the overt tense marker on the lower verb only. Borer's theory (and by implication, Bickerton and Iatridou's analysis) would not appear to be able to handle backwards anaphora as (13b) would warrant.

Other problematic bits of data are the sentences in section 3.3.1 from Cape Verdean Kriolu (CVK) and some found in Byrne (1987). Consider (i) and (ii) below.

(i) a. el podeba konta CVK (Caskey 1987)
he can-ANT sing
'He could/was able to sing.'

b. el pode kontaba
he can sing-ANT
'He could/was able to sing.'

c. el podeba kontaba
he can-ANT sing-ANT
'He could/was able to sing.'

(ii) a. a bi ke fu woóko a fótó
he TNS want for/OBL work LOC Paramaribo (OBL=obligation)
'He wanted to work in Paramaribo.'

b. a ke bi fu woóko a fótó
...TNS...
'He wanted to work in Paramaribo.'

c. a ke fu bi woóko a fótó
...TNS...
'He wanted to work in Paramaribo.'

In presuming pode 'can/be able' in (i-a,b,c) to be main-verbal (as suggested by the tense marking pattern), then the clause including konta 'sing' cannot be off of I-bar, but must be within a VP as normally formulated for modality verb-main semantic verb complexes. Similarly, the subordinate clauses in the SA data (ii-a,b,c) are obviously complements within VP and not off of I-bar as Borer (and by extension, Bickerton and Iatridou) proposes for serials. Yet, all of the above data evince tense marking exactly like SA serials. At the least, such evidence and the other comments in this note put in doubt the claim that anaphoric tense marking is due to an I-bar projection.

Given the difficulties explicated here, it would seem that the scope and spreading is better able to handle the data than the anaphoric AGR approach. Moreover, quite significantly, it would also seem that the matrix-complement clause configuration postulated for SA serials in Byrne (1987) is further substantiated particularly because of the tense patterning in the (iii-a,b,c) (unambiguously a projection within the matrix VP) which mirrors the pattern for SA and other languages' serializing structures (see the entire array of data in section 3). For similar conclusions, see Seuren (to appear).

17. See also McCawley (1988a:148, footnote 1; 271) and (1988b:524-25).

18. See Carlson (1983:70-78) for additional discussion and examples from numerous languages.

19. Among the publications which partly or directly lead to the subsequent conclusion concerning SA are the following: Bickerton (1984),

Bickerton and Byrne (1985), Bickekrton and Iatridou (to appear), Byrne (1982; 1984a,b; 1985a,b; 1986; 1987; 1988b; 1989a; 1990).

20. Serials with a meaning like 'around' are not uncommon in serializing languages. In SA, for example, *lóntu* 'around, circle' functions as a matrix verb (i), allows tense marking as a serial (ii), and copies for emphasis in sentence-initial position as do all verbs in the language (iii).

(i) Samo bi *lóntu* dí wósu
Samo TNS circle the house
'Samo had walked around the house.'

(ii) Samo wáká *bi* *lóntu* dí wósu
Samo walk TNS around the house
'Samo had walked around the house.'

(iii) lóntu Samo wåkå *lóntu* dí wósu
around... ...around...
'Samo walked AROUND the house.'

21. What is still not determined, however, is if the range of marking on other than the first verb in serials (SA, ECFC, SC) or modality verb-main verb complexes (SA, CVK, GCPC) is limited exclusively to Romance creoles (a background which SA shares with GCPC, SC, ECFC and CVK). If it is, then there may be something different in the formative pidginization and creolization stages of these languages which produced such a pattern. As a first untested approximation, the common denominator could be the Romance base.

22. For a detailed analysis of the process of clause change from a finite to infinitive status, see Byrne (1987).

23. The TNS/ASP gloss for *e* in (30) is based on the analysis of the formative in Sebba (1987) and characteristics of a cognate formative in SA as analyzed in Byrne (1987).

24. See footnote 10.

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# Serial Verb Construction in Marathi

Rajeshwari Pandharipande
University of Illinois at Urbana-Champaign

## 1 Introduction

Serial verb construction (SVC hereafter) in Marathi has been discussed in traditional grammars (e.g., Damle 1911, etc.), typological studies (Kachru and Pandharipande 1980, and Masica 1976), and in Pandharipande 1989. However, a number of basic and important issues remain unresolved till today: (a) does Marathi have a SVC? (the issue of defining the status of SVC in Marathi), (b) why does SVC in Marathi have split properties, i.e., why does it share morphological, syntactic, and semantic properties with other (non-SVC) constructions in the language?, and (c) what are the constraints on the compatibility (pairing) of the verbs in SVC.

This paper attempts to resolve the above issues. The major claim of the paper is that in order to resolve the above issues it is necessary to take into account first the mechanism of the derivation of SVC and secondly to examine the morphological, syntactic, semantic, and pragmatic properties of SVC in Marathi.

## 2 SVC in Marathi

First, I will illustrate the SVC construction in Marathi and then argue that it has to be treated as a SVC as opposed to either a compound verb construction (CVC hereafter) or a verb + auxiliary construction.

A SVC in Marathi, similar to SVC verbs in other Indian and African languages, typically involves a sequence of a verb ($V_1$) + verb ($V_2$), in which $V_1$ has generally called the main verb, while the $V_2$ has been called an explicator (since it explicates/extends the meaning of the $V_1$). The most frequently used explicators in Marathi (see Damle 1911) are listed in (1). The explicator verbs include both transitive and intransitive verbs and can follow both transitive and intransitive main verbs (see (1.) below).

(1) Serial verb = main verb ($V_1$) + explicator ($V_2$)
stem + *ūn*

| Explicator Verbs | General meaning |
|---|---|
| (a) *de* 'give' (tr.) | [action performed for someone other than the agent |
| (b) *ghe* 'take' (tr.) | [for agent] |
| (c) *tāk* 'deep' (tr.) | [to get rid of] |
| (d) *bas* 'sit' (intr.) | [inadvertantly] |
| (e) *dzā* 'go' (intr.) | [by mistake, action away from the agent/speaker] |
| (f) *ye* 'come' (intr.) | [action toward agent] |
| (g) *kādh* 'draw' (tr.) | ['draw' to the last point] |
| (h) *sod* 'leave' (tr.) | ['leave' at the point, of completion] |
| (i) *bagh* 'see' (tr.) | [try] |
| (j) *thev* 'keep' (tr.) | [completion of an action] |

(2) Examples

(i) *karūn de* to {do / work} for someone other than the agent of the action
do give

(ii) *karūn ghe* to {do / work} for the agent of the action
do take

(iii) *bolūn bas* to say inadvertently

(iv) *radūn ghe* to cry for oneself

## 2.1 Morphology of SVC

In a SVC, $V_1$ consist of a stem + the suffix -*ūn* which it commonly shares with the $V_1$ in the conjunctive participle construction (see examples 3, 4, and 5). $V_1$ has the invariant stem form. $V_2$ takes all markers of tense, aspect, and agreement. Consider examples (3) and (4) where the form of $V_1$ *karūn* (3) and *bolūn* (4) remain unchanged, while the expicator verbs *tāk* (3) and *gelā* (4) respectively, take the markers of agreement, tense, and aspect. The question is whether it is merely by accident that the suffix *ūn* on $V_1$ is homophonous with the suffix on $V_1$ in the conjunctive participle construction, or whether the SVC shares some other features with the conjunctive participle construction.

**Examples**:

(3) *tū* *he* *kām* *karūn* *ṭāk*
2p.sg.Imp.
you this work do drop
Get this work done.

(4) *Madhū* *he* *bolūn* *gelā*
madhū this say went
3p.sg. mas.
Madhū said this (inadvertently).

(5) *Madhū* *he* *bolūn* *gharī* *gelā*
madhū this having said home went
3p.sg.mas.
Having said this, Madhū went home.

Note the suffix *-ūn* on $V_1$ and the tense, and agreement markers on $V_2$.

In Marathi there are V + V sequences other than the type discussed above. The question is whether all of them qualify as SVC, and more importantly, what the criterion is for determining a V + V sequence to be a SVC.

Let us consider the following V + V sequences:

(6) V + *śak-ṇe* 'to be able to'
(can)

(7) V (imperf.) + *as-ṇe* 'habitual action (i.e., to habitually perform an action)'
(to be)

(8) V (imperf.) + *rāh-ṇe* 'continuous action' (i.e., to keep doing an action)
(remain)

(9) V (imperf.) + *dzā-ṇe* 'habitual/repeated/regular action (i.e., to perform an action habitually/repeatedly/regularly)
(go)

The following examples (6a) - (9a) illustrate the use of V+ sequences in (6) - (9).

(6a) *to* *he* *kām* *karū* *śakto*
he this work do can
He can do this work

(7a) *mi* *he* *gāṇa* *mhaṇat* *ase*
I this song sing used to
I used to sing this song

(8a) *to* *te* *gāna* *mhanat* *rāhılā-tyātsā*
he that song sing kept on - its
*artha* *na* *samadztā*
meaning not understanding
He kept on singing that song without understanding its meaning

(9a) *tū* *hırvyā* *bhādʒyā* *khāt dzā*
you green vegetable eat regularly
*mhaṇdʒe* *tudʒ*$^{h}$*i* *tabyet* *tsāngli* *hoil*
then your health good will be
Eat green vegetables regularly, then your health will improve (literally, will be good)

Note that morphologically, the verbs in (6a) - (9a) can be labelled as SVs. However, they are different from the SVs in (1). *śakṇe* 'can' (6a) is an auxiliary and is never used as an independent verb. In this sense, it is similar to the verb 'can' in English. In contrast to this the explicator verbs in (1) are used as single verbs independently of SVC. Verbs ($V_2$s) in (7a) - (9a) can be used as independent, single verbs elsewhere. However, the meaning of these $V_2$ is completely grammaticalized, i.e., the $V_2$s are completely 'bleached' of their meaning and function as aspectual markers. Therefore, $V_1$ + $V_2$ of the type in (6a) - (9a) is an open set. Practically, any $V_1$ can be paired with $V_2$ to convey the meanings (mostly aspectual) mentioned above. The pairing of $V_1$ and $V_2$ is restricted, not on the basis of the compatibility of the lexical meaning of $V_2$ with $V_1$, but rather, on the basis of the compatibility of $V_1$ with the grammaticalized/aspectual meaning of $V_2$. For example, a verb such as *mar-ne* 'to die' can not be combined with *as-ne* (7), *rāh-ne* (8) or *dzā-ne* (9) because of the ontological incompatibility of $V_1$ to take the aspectual meanings conveyed by the above.

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The $V_2$s in this class of verbs are totally affixal in their function. They do not have a syntactic or semantic status of a verb, i.e., they do not have any arguments, or meaning (independently of $V_1$). They do not convey the meanings independently of $V_1$. Marathi does not have other affixes (besides those auxiliary verbs) to carry out their grammatical function. Also, similar to V + affix combinations, the SV in this class do not allow any intervention of any morpheme between $V_1$ and $V_2$. Moreover, similar to affixes or auxiliary verbs, the sequential order of $V_1$ and $V_2$ is irreversible. $V_2$ may take inflections of tense, gender, and number agreement (if it is the last element in the sentence).

The set of SV described in (1) is different from this class (as will be demonstrated in detail in section 3). In the SV in (1), the $V_2$s are not as grammaticalized as the $V_2$ in (6) - (9), in the sense that they are not completely 'bleached' of their lexical meaning. For example, unlike those in (6) - (9), all $V_2$s (which are used also as independent single verbs) retain their features of ± volitionality, and argument structure in the SVC. Moreover, the SV in (1) allow an emphatic particle to intervene between $V_1$ and $V_2$ and optionally, the order of $V_1$ and $V_2$ can be reversed. One of the major differences between the two sets is that the SV in (1), $V_1$ is not an open set. Unlike $V_2$ in (6) - (9), $V_2$ is not freely attachable to any $V_1$ in SV in (1). There are syntactic/semantic constraints (see section 8) which determine the compatibility of $V_1$ and $V_2$.

The above discussion shows that the two sets of SVs need to be treated differently. In the set in (1), the $V_2$ retains more verbal properties than the $V_2$ in (6) - (9). In the former, we are dealing with SV with a pair of (structurally and functionally) two verbs while in latter, we are dealing with a $V_1$ + $V_2$ (which is syntactically, semantically, and functionally a grammatical inflection). In the following discussion, I will discuss the set of verbs in (1) as SVs.

## 3. Split properties of SVC: Morphology

In my earlier paper (Pandharipande 1989) it is pointed out that SVC shares morphological, syntactic, and semantic properties with other constructions in the language. In order to facilitate the discussion, I will present the relevant data to substantiate this claim. In section (1) it is already pointed out that $V_1$ in SV obligatorily takes the suffix *ūn* which it shares with the conjunctive participle (CP hereafter) construction in Marathi.

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Another morphological property of a SVC is that it does not readily allow intervention of any element between $V_1$ and $V_2$. This property is commonly shared by a compound. Consider the following examples:

(10) *_to he bolūn kāl gelā_
he this say yesterday went
He said this (inadvertantly) yesterday

Note that when an adverbial element *kāl* 'yesterday' intervenes between $V_1$ - *bolūn* 'say' (literally having said) and $V_2$ - *gelā* (inadvertantly, literally 'went'), the resulting sentence is ungrammatical.[1] This property of SVC points out an intimate combination of verbs in a SVC (Foley and Van Valin 1984). However, the following example (11) shows that an emphatic particle can intervene between $V_1$ and $V_2$.

(11) _to he bolūn tar gelā_
he this say (emph.) went
indeed
Indeed, he said this inadvertantly

Moreover, the order of $V_1$ and $V_2$ may be optionally switched as in (12).

(12) _tyāne kām takla karūn_
he-ag work threw do
$V_2$ $V_1$
He did the work (and got rid of it)

The above discussion points out that SVs are not as intimately combined as compounds nor are they as loosely combined as the pairs of verbs in (6)-(9).

## 4. Split properties of SVs: Syntax

A close examination of the syntactic properties of SVs in the following discussion shows that some syntactic phenomena (such as passivization, participialization, and verb-agreement) refer to/operate only on $V_2$. Causativization refers to both $V_1$ and $V_2$.

### 4.1 Passivization

Consider the following example (13) where the SV is in the passive form. Note that while $V_1$ (*todūn* 'cut') remains unchanged, all the markers of passive, i.e., (perfective form of the $V_1$ *ṭākli* 'dropped' and the agreement markers (3 person, neuter, plural) are on $V_2$.

| (13) | *sarkārī* | *hukumānusār* | *sagḷi* | *dzʰāḍa* |
|---|---|---|---|---|
| | government's | order-according to | all | trees<br>3p plu neut. |

| | *toḍūn* | *ṭākli* | *geli* |
|---|---|---|---|
| | but | 3p. neut plu perfect<br>drop | 3p. neut plu perfect<br>went |

According to the government's orders, all the trees were cut down.

### 4.2 Past Participles

Except for one type of sequence of $V_1 + V_2$ (i.e. $V_1$ (intransitive) + $V_2$ (transitive), all other sequences of $V_1 + V_2$ (in a SV ) may undergo (past) participialization. (Consider examples (14)- (17). Notice that the SV with the $V_1$ (trans.) + $V_2$ (trans.) undergoes the process of (past) participialization yielding the participle (*toḍūn ṭākleli* 'cut off') in (14). Similarly (15) and (16) show that the SV with the $V_1$ (tans.) + $V_2$ intrans.) (in (15)) and $V_1$ (intrans.) + $V_2$ (intrans.) in (16) undergo ( past) participialization deriving the participles i.e., *cūk karūn baslelā* 'the boy who made a mistake inadvertantly' (8, and *tuṭūn geleli* 'being cut off' (16) respectively. However, when the SV with $V_1$ (intrans.) + $V_2$ (trans.) sequence is (past) participialized, the resulting sentence (17) is ungrammatical.

Past participles: $V_1$ (tr.) + $V_2$ (tr.)

| *toḍ* | + | *ṭāk* | = | *toḍūn ṭākne* 'to cut off' |
|---|---|---|---|---|
| cut/break | | drop | | |

| (14) | *tyāne* | *toḍūn* | *ṭākleli* | *dzʰāḍa* | *titha* | *paḍli* | *hoti* |
|---|---|---|---|---|---|---|---|
| | he-ag | cut | drop | trees | there | lay | aux. |

The trees cut down by him lay there.

(15) $V_1$ + $V_2$
tr + Intr

*cūk* *karūn* *basle lā* *mulgā*
3p sg mas
mistake do sit boy
The boy who made a mistake (inadvertantly)

(16) $V_1$ + $V_2$
Intr + Intr

*tutūn* *geleli* *phāndi*
break go branch
(intr.) 3p sg fem 3p sg fem
The branch (which was) broken off

(17) When $V_1$ is intransitive and $V_2$ is transitive, the formation of past participle is blocked

*dzʰopūn* *ghetle lā* *mulgā*
sleep take boy
The boy who slept (for himself)

## 4.3 Present Participles

The process of (present) participialization is blocked for the SVs. Consider example (18) where the SV *lihūn/tākne* 'to write (to finish off the job of writing)' has undergone the process of (present) participialization. The resulting sentence is ungrammatical.

(18) **patra* *lihūn* *tākat* *asleli* *mulgi*
letter write drop aux girl
The girl who is writing a letter (in order to finish off the job of writing)

## 4.4 Causativization

Notice that when the SV (19), *karūn ghene* 'to work for oneself' is causativized in (19 a), $V_1$ changes from *karūn* 'to work to *karvūn* 'to make do/work'. No change (other than the tense aspect and the agreement marker) takes place in $V_2$ (compare (19) and (19 a)).

(19) *mi kām karūn ghetla*
I work do took
I did the work (for myself)

(19a) *mi kām sudhā kadūn karvūn ghetla*
I work Sudhā by do-caus took
I got the work done (for myself) by Sudhā

Note that the causative marker can also be placed on $V_2$ as shown in sentence (20)

(20) *mū sudhālā kām karāylā lāvle*
I Sudha-acc work do-caus attach + past
I made Sudha do the work

## 5 Verb Agreement

The verb-agreement in Marathi is sensitive to the argument structure of the verb (for further discussion see Pandharipande 1981a) (a) a verb agrees in number, (gender), and person with the agent or patient (subject), if it is not followed by a post position (PP hereafter), (b) if the agent/patient is followed by a PP, it agrees with the theme or object (if it is not followed by a PP), (c) if both (i.e. subject and object) are followed by PPs, the verb remains in its unmarked (3 person, sg. neut.) form. In SVC the verb agrement is sensitive to the arguments of $V_2$ Consider the following examples

$V_1$ (tr.) + $V_2$ (tr.)
(21) *sudhā patra lihūn ṭākte*
sudhā letter write drops
Sudhā writes a letter (to get rid of the responsibility of writing it)

$V_1$ (intr.) $V_2$ (int.)
(22) *sudhā nighūn geli*
sudhā leave went
Sudhā went away

$V_1$ (tr.) + $V_2$ (intr.) Note the absence of *-ne*
(23) *sudhā kām karūn basli*
sudhā work do sat
Sudhā did the work (inadvertantly)

$V_1$ (intr.) + $V_2$ (tr.) Note the ergative marking on the agent

| (24) | *tyāne* | *dzʰopūn* | *ghetle* |
|---|---|---|---|
| | he-erg. | sleep | took |
| | | (intr.) | (tr.) |

He slept

In (21) and (22), it is not clear whether it is the argument of $V_1$ or $V_2$ which controls agreement, since $V_1$ and $V_2$ in (21) and (22) have an identical argument structure (they are both transitive in (21) and intransitive in (22)). However, (23) and (24) clearly show that it is the argument of $V_2$ which controls agreement. In (23) the agent *Sudhā* does not take the regular marker of the agent of the transitive verb *karne* 'to do'. *Sudhā* (which controls the agreement), should have taken the agent-marking *-ne* and the verb should have agreed with the theme *kām*. Instead, *Sudhā* fails to take the marking *-ne* and the SV agrees with *Sudhā*. If *Sudhā* is taken to be the *theme* (subject) of *basne* ($V_2$) 'to sit', then it is clear that *Sudhā* being the theme (subject) of an intransitive verb does not take *-ne* and consequently the SV agrees with *Sudhā*. In (24) *to* 'he' is the agent of $V_2$ ghene 'to take'. Therefore to *to* 'he' takes the agentive marker *-ne* (and as a result the SV fails to agree with it). Had it been the theme (subject) of $V_1$--dzʰᵒp-ne 'to sleep', it should not have taken the marker -ne and the verb would have agreed with it.

## 6. Split properties of SVC: Semantics

If we look at the semantic structures of SVC in Marathi, the following two points are immediately clear: (a) the semantic structure of both $V_1$ and $V_2$ is relevant for the semantic representation of a SV in which $V_1$ conveys the primary meaning of the SV and $V_2$ conveys the adverbial meaning (see discussion in section 1). For example in a SV *karūn ghene* 'to do for oneself', *karūn* 'do (literally having done) conveys the primary meaning, while *ghene* 'take' conveys the adverbial meaningl. The meaning of a SV is further split up between $V_1$ and $V_2$ in that it is $V_2$ which determines the transitivity/intransitivity of the SV (recall (23) and (24)) and thereby, the agreement pattern is also determined by $V_2$. However, the lexical meaning of $V_1$ is retained while that of $V_2$ is not.

## 7. Derivation and function of SVC

In order to explain the split nature of the SVC, it is crucial to discuss the derivation and function of the SVC. It is important to remember that two verbs (i.e., $V_1$ and $V_2$) will have to be compatible in order for the combination of primary meaning of $V_1$ and adverbial meaning of $V_2$ to get properly orchestrated.

A close examination of the semantic representation of $V_1$ and $V_2$ shows that (a) in order for the lexical meaning of $V_1$ to take on the additional adverbial meaning (conveyed by $V_2$), it is crucial for $V_1$ to match the semantic features of $V_2$. (b) In the above process the semantics of $V_1$ is modified, (c) this change in semantics of $V_1$ changes the nature of the argument of $V_1$, and (d) this change is reflected in the syntactic properties of the arguments of $V_1$.

The supporting evidence for this analysis comes from behavior of the arguments with reference to certain syntactic processes which apply to $V_1$ when it is used as a single verb but fail to apply to it when it is as a $V_1$ in a SVC.

### 7.1 Semantic properties of $V_1$ and $V_2$: the question of compatibility

Compatibility of $V_1$ and $V_2$ can be determined on the basis of the pairability of their semantic features (which as will be seen, affect their compatibility at the syntactic level as well). A further breakdown of the semantic features of $V_1$ and $V_2$ is necessary to investigate their compatibility. Note that the $V_2$, in addition to conveying the adverbial meaning, also determines the overall ± volitionality of a SV (and thereby the ± control of the agent/subject over the action expressed by $V_1$. It is to be further noted that the transitive $V_2$ conveys +volitional action and + control of the agent; while an intransitive $V_2$ conveys -volitional action and -control of the agent. Thus the $V_2$s (see the list of $V_2$ in section 1) such as *de* 'to give', *ghe* 'to take', *kāḍh* 'to draw', *sod* 'to leave', *bagh* 'to see', and *thev* 'to keep' share two features: (a) +volitionality and (b) +control of their agents.

In Pandharipande 1982, the tests for determining ± volitionality and ± control have been discussed. It is pointed out that the verbs which express + volitional act and + control of their agent, invariably participate in the causative, passive, and imperative constructions and readily take the adverbials such as 'try to' or 'intentionally,' etc. It was further demonstrated that most generally, transitive verbs express + volitional acts and + control of their subjects/agents while intransitive verbs are lower on the scale of volitionality as well as of the control of their subjects over the actions expressed by them.

The SVs with the intransitive $V_2$s (see the list in section 1) such as *bas* 'to sit', *ye* 'to come', and *dzā* 'to go', have a theme rather than an agent, and therefore they are less volitional and convey some control of the subject only if it is +human. The following two examples show that if $V_2$ is transitive (and therefore +volitional +control of the agent), the SV participates in the imperative construction; while with the intransitive $V_2$, a SV fails to participate in it.

(25) *tū* *thoda* *raḍūn* *ghe*
you a little cry take
Cry a little (for yourself).

(26) **tū* *te* *kām* *karūn* *bas*
you that work do sit
Do the work inadvertantly.

Note that it is the $V_2$ which determines the overall volitionality of a SV. For example, in (26) $V_1$ *kar* 'to do' is a transitive verb and thereby it is +volitional and +control (of the agent). However, since the $V_2$ *bas* 'sit' is intransitive (and is -volitional here), the SV *karūn basṇe* 'to do inavertantly' is viewed as -volitional-control (of the agent). Similarly $V_1$ in (25) *radne* 'to cry' is lower on the scale of volitionality and control (since it is generally accepted that one does not have an intention to cry and control over the action of crying). However, the $V_2$ (in 25) is a transitive verb - *ghene* 'to take' which is higher on the scale of volitionality and control. As a result, the SV is treated a +volitional and +control (of the agent) verb which explains why it participates in the imperative construction. Examples (24) and (25) point out that it is the features of volitionality and control of $V_2$ which determine the overall features of volitionality and control of the SV. Thus it is only expected that the $V_1$ is selected on the basis of the compatibility of its features with those of the $V_2$, or its modifiability of its features to match those of $V_2$. If the features of $V_1$ and $V_2$ match then $V_1$ does not need to be modified. In contrast to this, if they do not match, the semantic representation of $V_1$ has to be modified. This is exemplified in the following:

(27)

| | | | |
|---|---|---|---|
| (a) | $V_1$ (transitive) | + | $V_2$ (transitive) |
| | ‹agent› [+volitional +control] | | ‹agent› [+volitional +control] |
| | ‹theme› | | ‹theme› |

Resulting SV: *karne* 'to do' + *ghene* = *karūn ghene* 'to do for oneself'

(b) $V_1$ is intransitive + $V_2$ (transitive)
‹theme› [-volitional -control] ‹agent› [+volitional +control]

Change : $V_1$ +volitional +adverbial meaning of $V_2$
Resulting SV
= *dzʰopṇe* 'to sleep' + *gheṇe* 'to take' = *dzʰopūn gheṇe* 'to sleep for oneself' (volitional)

(28) If $V_2$ is intransitive (i e *basṇe* 'to sit', *dzāṇe* 'to go', etc ) it adds the feature of -volitionality to $V_1$

(a) $V_1$ (transitive) + $V_2$ (intransitive)
‹agent› [+volitional + control] ‹theme› [+volitional +control]
‹theme›

Change = $V_1$ -volitional +adverbial meaning of $V_2$
Resulting SV: *karṇe* 'to do' + *basṇe* 'to sit' = *karūn basṇe* 'to do inadvertantly'

(b) $V_1$ (intransitive) + $V_2$ (intransitive) =
‹theme› [+volition +control] ‹theme› [+volition + control]

$V_1$ +volition +adverbial meaning
Resulting SV: *basṇe* 'to sit' + *dzāṇe* 'to go' = *basūn zāṇe* 'to sit down inadvertantly'

(c) $V_1$ (intransitive) + $V_2$ (intransitive)
‹theme› [-volition -control] ‹theme› [+ volition +control]

= $V_1$ + adverbial meaning
*sukṇe* 'to wither' + *dzāṇe* 'to go' = *sūkūn dzāṇe* 'to wither away'

Resulting SV = *sukūn dzāṇe* 'to wither completely'

Note that when the features of volitionality and control match (between $V_1$ and $V_2$) no modification in $V_1$ takes place (see examples (27a) and (28b). When the features of $V_1$ and $V_2$ do not match, $V_1$ undergoes change. For example, in (27b), $V_1$ is lower on the overall volitionality scale than $V_2$. In this case, $V_1$ becomes +volitional + control (although it is still lower than $V_2$ on the scale since its subject argument is a theme (as opposed to an agent)). Similarly, in (28a) the mismatch between $V_1$ and

$V_2$ is due to the fact that unlike $V_1$ which has an agent argument, $V_2$ has a theme argument. In order to be compatible with $V_2$, volitionality of $V_1$ is lowered. In (28.c) the $V_2$ *dzāṇe* 'to go' is lower on the scale of volitionality and control since it has a theme argument. $V_1$ matches the volitionality feature of $V_2$ and since the argument of $V_1$ is human, the adverbial meaning 'inadvertantly' is redudant. In this case, the $V_2$ only adds the adverbial meaning 'completely' to $V_1$.

## 8. Constraints

In the following discussion, I will discuss some of the constraints on pairing of $V_1$ and $V_2$. Let us consider the following combinations of $V_1$ and $V_2$ which are not possible in Marathi.

(29) If $V_1$ cannot have a volitional agent, $V_2$ (transitive) cannot be paired with $V_1$, i.e.

(a) *$V_1$ (-volitional + $V_2$ (transitive)
+ agent )

**sinkūn ghene* = 'to sneeze intentionally for oneself'
sneeze take

(b) Experiencer (dative-subject) verbs

*$V_1$ ( - volitional + $V_2$ (transitive)
- agent
+ patient)

*rāg yeūn ṭākṇe*
anger come drop
'(For X) to get angry to get rid of it'

(c) If $V_1$ cannot have a -volitional agent $V_2$ (intransitive) cannot be paired with it.

$V_1$ ( + volitional + $V_2$ (intransitive)
+ agent)

**prayatna karūn dzāne*
effort do
'To try inadvertantly'

Examples (29 a) - (29 c) point out that if the semantic features of $V_1$ do not match with those of $V_2$ and the modification in the features of $V_1$ is not possible due to the ontological nature of the action expressed by $V_1$, then, $V_1$ cannot be paired with that $V_2$

In order to match $V_2$ in (29 a), which is +volitional and +control (of the agent) verb, it is necessary to modify $V_1$ (which is -volitional and -control) However, ontologically, the action of sneezing is -volitional and -control (of the agent) in its nature Therefore, $V_1$ cannot be paired with $V_2$ Similarly, in (29 c), $V_1$ expresses action (*prayatna karne* 'to try') which is onthologically impossible to perform without volition and control (of the agent) Therefore, it cannot be paired with an intransitive $V_2$ The constraint on pairing of $V_1$ and $V_2$ also explains why the dative-subject-verbs (i e the verbs which have experiencer-subjects) cannot take transitive $V_2$ (see example (29 b)) Experiencer/dative subject-verbs typically express a -volitional action over which the subject does not have any control (for further discussion on experiencer subjects in Marathi see Masica 1976, and Pandharipande 1989) Therefore, their incompability with a transitive (+volitional +control) verbs is only expected

## 8 1 Interaction of syntax and semantics

The assumptions in (7 ) also explain the split syntax of SVC For example, recall (23) and (24) *Sudhā* (agent) in (23) fails to take the expected agentive *-ne* -marking while *to* in (24) which should not take *-ne* obviously takes it According to our hypothesis, in (23), the semantic features of $V_1$ (+volition, +control (of the agent)) are modified to become compatible with $V_2$ (intransitive) which has a theme subject As a result, volitionality as well as control of the agent *Sudhā* is lowered Consequently, *Sudhā* no more claims to be the volitional agent of the action (of doing the work) expressed by $V_1$ Since the *-ne* marking typically marks an agent (see Damle 1911, Pandharipande 1981), it is only expected that *Sudhā* (in 23) is not marked with it Therefore the SV agrees with it In contrast to this, in (24), $V_1$ has a theme subject and $V_1$ *dz^hopṇe* 'to sleep' is low on the scale of volitionality and control However, as a result of its pairing with $V_2$ *gheṇe* 'to take', which is transitive, and has the features +volitional, and +control (of the agent), the volitionality and the control of the agent is raised Therefore, the subject of $V_1$ is the SV *dz^hopūn gheṇe* 'to sleep for oneself' is more agent-like than the subject of single verb *dz^hopṇe* 'to sleep' Thus it is not a surprise that it takes the agentive marker *-ne* and the SV fails to agree with it

The hypothesis about the modification of the semantic features of $V_1$ further explains why the syntactic processes of passivization, and (perfective) participialization fail to apply to (13 a) (see 13 b)) even though the theme argument (i.e., *cūk* 'mistake') is present in the sentence. Since (as discussed above) the agent is downgraded (due to the influence of $V_2$), the theme (*cūk* 'mistake') is further downgraded and does not have the status of the theme argument. Therefore, the syntactic construction of passivization and (perfective) participialization do not treat it as a 'real' theme of a transitive verb and thereby fail to operate on it (see 15 a). In contrast to this, the SV in (17) treats the subject as agent and therefore, following the ergative pattern, the (perfective) participialization fails to operate on it (see 17). This operation can be summarized as follows. If semantic structure of $V_1$ is modified, then the nature of its arguments change and this change is reflected in the syntax of $V_1$.

More evidence for the hypothesis comes from the process of causativization. (recall examples (19) -(26)). Note that the $V_1$ and $V_2$ in the SVC in (19) have identical semantic features. Therefore, it is only as expected that the causative marking may be placed either on $V_1$ (19 a) or on $V_2$ (19 b). Ungrammaticality of (20) is justifiable on the basis of ontological incompatibility of the adverbial meaning 'inadvertantly' with the causative meaning 'to make causee do **x** (action)', i.e., a causee cannot be caused to perform an action inadvertantly. Therefore (20) is ungrammatical.

## 9. Conjunctive participial suffix -*un* and SVC: more evidence for compatibility of $V_1$ and $V_2$

In section (1.0) (examples (1) and (2)) it is noted that in SV, $V_1$ shares the suffix *ūn* with the conjunctive participial construction in Marathi. The use of *ūn* in SVC in convincingly justified within our hypothesis as follows: the suffix *ūn* in SVC, similar to the conjunctive participial construction, signals (a) identity or compatibility of the arguments of $V_1$ and $V_2$ and (b) completion of the action in $V_1$ as exemplified in (30).

Conjunctive participle

| | | | | | |
|---|---|---|---|---|---|
| (30) | *to* | *dzʰad* | *todūn* | *ghari* | *gelā* |
| | he | tree | having cut | home | went |
| | Having cut the tree, he went home | | | | |

Note that the agent of $V_1$ and $V_2$ is identical[2] in (30) and the action in $V_1$ is complete. Our earlier discussion shows that the arguments of $V_1$ and $V_2$

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have to be compatible. The claim that in SVC action expressed by $V_1$ is interpreted to be completed or realized, is supported by the fact that a progressive participle cannot be derived from a SVC (as noted in (18)). This interpretation of the realization/completion of the action expressed by $V_1$ overrides the tense/aspect of overall SVC (indicated by the marking on $V_2$), as in (31) where the SV clearly denotes the non-perfective aspect.

(31) *to* *patra* *phekūn* *deto*
he letter throw give
He throws away the letter

Thus it is not implausible to assume that the completion of the action in $V_1$ is signaled by the suffix *ūn* and that this interpretation is valid at the discoursal level. More evidence to support the hypothesis regarding the completion of the action comes from the fact that a SV can not be readily negated, as illustrated in (32). Our hypothesis nicely predicts and accounts for the ungrammaticality of (32) since the interpretation of the completion of the action is incompatible with its negation.

(32) **to* *he* *bolūn* *baslā* *nāhi*
he this say sat not
He did not say this inadvertantly

## 10. The affixal nature of $V_2$ in SVC

The analysis of the syntactic as well as semantic behavior of SVC is further supported by the fact that the $V_2$ in SVC is affixal in nature. The following evidence supports this hypothesis: (a) they, similar to other verbal/nominal affixes and post-positions, are dependent on the $V_1$ for the realization of the adverbial meaning. (b) $V_2$ occurs in the position of tense, aspect, and agreement markers which categorically follow and not precede the main verb, (c) similar to post-positions, $V_2$ influences the meaning of $V_1$ and more importantly, changes its thematic role. Consider the following examples (33) and (33.a). When the post-position *kaḍūn* is added on to the agent of the verb, the thematic role of the agent is changed to that of an instrument and the action of doing is treated as non-volitional.

(33) *rām* *ne* *kām* *kele*
Rām ag. work did
Rām did the work.

(33 a) *rām* *kadūn* *kām* *dzʰāle*
rām by work happened
Rām did the work (literally, Rām was instrumental in getting the work done.)

Similarly, when intransitive $V_2$ follows a $V_1$, the action expressed by $V_1$ is treated as -volitional and as discussed in section (8.) the nature of the arguments of $V_1$ is changed. (c) Another piece of evidence to support the hypothesis comes from that Marathi, similar to many other (e.g., Hindi, Gujarati, Punjabi) Indian languages uses lexical verbs as suffixes (recall discussion section 1), therefore, affixal function of verbs is indepenently motivated in Marathi. (d) There are no other adverbial suffixes or adverbials which carry out the function of $V_2$s in the language. (e) The hypothesis about the affixal function of $V_2$s is further supported by diachronic evidence. Beams (1872) attributes the emergence of SVs in Indo Āryan languages to the loss of Sanskrit *upasargas* (suffixes) during the period between Sanskrit and New Indo Āryan. Directional and aspectual Sanskrit affixes (e.g. *ut* 'up', *apa* 'away', *pati* 'toward', *upa* 'close to', etc.) were gradually lost. The distinction between verbal suffixes of *ātmanepada* (indicating that the action is performed for oneself) and of *parasmaipada* (indicating that action is performed for someone else) was neutralized. This change was gradual through Pāli and Prākrt (the phases of Middle-Indo-Āryan following Sanskrit) but became more dominant in Apabhraṃśa (the phase following Prākrt) where a predominantly analystical system of grammar emerged. Case suffixes of Sanskrit and Prākrt were replaced by postpositions. The use of a verb to replace an aspectual inflection had already with Pāli. However, in Old Marathi (11-13th century A.D.) the use of inflectional affixes is still predominant while the use of a verb to convey aspectual meaning is rear. In Modern Marati however, a majority of the derivational suffixes of Sanskrit and Prākrt indicating the direction or beneficiary of the action are completely lost. Thus there seems to be a correlation between the loss of affixes and the emergence of SVs in Marathi. Therefore, it is not surprising that the $V_2$s in SVC, similar to the affixes, express the conditions under which the action expressed by the $V_1$ took place.

It is important to note here that not all verbs used as $V_2$ are fully grammaticalized as affixes. There seems to be a hierarchy of grammaticalization of verbs. For example, the verbs used as aspectual markers (e.g., *as-ṇe* 'to be' (habitual), passive-marker (*dzā-ne* 'to go'), and the marker of a regularly performed action (*dzā-ne* 'to go') are fully grammaticalized. In contrast to this, $V_2$s in SVC are not fully grammaticalized. The evidence for this is discussed in section 1.

Additional evidence to support this claim comes from the fact that the fully grammaticalized verbal afixes can be added on to any verb (including to the same lexical verb) while the $V_2$s categorically fail to be $V_2$s if $V_1$ is the same lexical verb. Consider the following:

(34) *tū śāḷet dzāt dzā*
you school-in go go
(You) go to school regularly.

The following combinations of $V_1$ and $V_2$ are unacceptable.

(35) (a) *basūn bas-ṇe* 'to sit inadvertantly'
(b) *deūn de-ṇe* 'to give for someone else'
(c) *gheūn gheṇe* 'to take for oneself'

Note that in (34) (which does not involve a SVC construction) the verb *dzā* 'go' is used twice, first as the main verb and secondly, as the aspectual affix. Note that the resulting sentence is fine. On the other hand, in a SVC the same verb can not be used both as $V_1$ and $V_2$ since it presents semantic redundancy (35a -35c). This indicates that the $V_2$ is as "bleached out" of its lexical meaning as the $V_2$ *dzā* 'to go' in (34).[3]

Even within the group of $V_2$ some are more grammaticalized than others, i.e., *de-ṇe* 'to give', and *gheṇe* 'to take' are more grammaticalized as opposed to *pāh-ṇe* 'to see.' (In some varieties of Marati *deūn de-ṇe* 'to give for someone else' is to a large extent, acceptable.)

The following additional evidence shows that the $V_2$s are not fully grammaticalized, i.e., their adverbial meaning emerges not only from its form but also from the attitudes of the speaker. For example, let us compare the adverbial meaning of the $V_2$ *gheṇe* 'for oneself.' With the similar meaning of the reflexive particle *svataḥ sāṭhī* 'for oneself'. In (36), where SV *karūn gheṇe* 'to do for oneself' is used, the use of the word indicating beneficiary other than the subject, i.e., *āīsāṭhī* 'for mother' should create discrepancy. However (36) does not present any discrepancy. In contrast to this, (37) where the reflexive particle *svataḥ* 'self' is used, the insertion of the word *āīsāṭhī* 'for mother' creates discrepancy and the sentence is not acceptable.

(36) *tyāne āīsāṭhī te kām karūn ghetle*
he-ag mother-for that word do took
He did the work for (his) mother. (He felt that he was doing it for himself).

(37) **tyāne* *āisāthi* *svataḥsāthi* *te* *kām*
he-ag mother-for self-for that work

*karūn* *ghetle*
do took
He did the work for himself for his mother

The difference between (36) and (37) can be explained if we assume that the reflexive meaning of *svataḥ* 'self' is fully grammaticalized, i.e., it can only refer to the subject of the sentence irrespective of the attitude of the subject or speaker. Therefore, the beneficiary of the action can not be anyone other than the subject. Thus, it is not surprising that the insertion of the word *āisāthi* 'for mother' creates discrepancy in (37). In contrast to this, if we assume that the reflexive meaning of *ghene* 'for oneself' in (36) is not fully grammaticalized, but rather, it depends on the attitude of the speaker, then it is expected that if according to the speaker, agent's doing the work for mother is comparable to during it for himself, then the use of *ghene* 'for oneself' in (36) should not create any discrepancy.

## 11. Conclusion

The major points in the preceding discussion can be summarized as follows: (a) The SVC is different from other serial verb constructions in Marathi; since the combination of $V_1$ and $V_2$ in SVC is neither fully fixed like compounds, nor is it totally free as other serial verbs in Marathi, (b) $V_1$ and $V_2$ are paired on the basis of their semantic (and thereby syntactic) compatibility, which is subject to semantic constraints. This hypothesis is in consonance with Mishra's (1990) hypothesis of 'multiple linking' of $V_1$ and $V_2$ in Hindi SVC, (c) change in the semantic features of $V_1$ influence the syntactic features of its arguments, (d) $V_2$s are affix-like in their function. However, they are not fully grammaticalized and that there is a hierarchy of grammaticalization of verbal affixes in Marathi. There is dichronic evidence for assuming that historically, SVC emerged as a result of the loss of some affixes.

The discussion in this paper points out that the split properties of SVC, the constraints the compatibility of $V_1$ and $V_2$ can be fully explained only if the morphology, syntax semantics, and pragmatics of SVC is taken into account. since interlinking of the levels of grammar (see sections 3 and 10.) is evident, one may ask whether it is useful or even possible to determine constraints on and properties of SVC exclusively in syntactic terms.

The paper also points out that the semantic representation of a verb not only includes its argument-structure but also other properties such as volitionality and control of the agent of the action expressed by the verb.

The discussion in this paper is also relevant for developing a typology of SVC in Indian languages in particular and SVC across different language-families in general. If the emergence of SVC in Marathi and other Indo Āryan languages is due to the loss of affixes, then it is expected that (a) the languages which have preserved a relatively more synthetic/affixal structure should have relatively fewer SVs. In fact, this seems to be true in the case of Marathi vis-a-vis Hindi. Marathi, which has retained a larger number of affixes (case-marker) than Hindi, has fewer SVs than Hindi. However, a cross-linguistic study is needed to provide a conclusive statement about the status of SVs in Indo-Āryan languages, and (b) the paper points out that the SVC in Marathi stands between compounds (which are fully fixed) and V+ affix constructions (which are totally free). Perhaps, there is a scale of 'intimacy' between $V_1$ and $V_2$ in SVC across languages, on which each language occupies a particular position.

## Notes

1. The sentence in (10) is grammatical if it is interpreted as a Conjunctive Participle Construction. In this case the sentence will translate as 'Having said this, he went home yesterday.'

2. It is to be noted here that $V_1$ and $V_2$ may have different subjects if there is a causal connection between the actions expressed by $V_1$ and $V_2$ respectively, i.e.,

| | | | |
|---|---|---|---|
| *pāūs* | *padūn* | *dhānya* | *pikla* |
| rain | having fallen | paddy | grew |

The paddy grew due to the rainfall. (Literally, the rain having fallen the paddy grew).

For further discussion see Pandharipande 1989).

3. It may be argued here that the same verb can not be used as both $V_1$ and $V_2$ because $V_1$ has all properties of $V_2$ (including the adverbial

meaning). Therefore, repetition of the same verb causes redundancy. However, this argument fails since $V_1$s in (35a) - (35c) when used as single verbs do not inhere the adverbial meaning which they express when used as $V_2$s in SVC constructions.

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# Tamil Serial Verbs*

Sabita Nagarajan
University of Delaware

In this paper I analyze serial verbs in Tamil and provide an extension to Baker's (1989) analysis. The main argument rests on two facts:

a. Tamil serial verbs have a different order from the one proposed by Baker;

b. Tamil serial verbs differ in that the two verbs get different tense specifications.

I will try to show that these facts can be derived from the same underlying principles of UG that Baker assumes. Unlike Baker, I will assume that Infl and Agr head separate projections. This is important for my analysis, which is to propose a featural relation between Infl and Agr.

The paper is organized as follows. In section 1 I present very briefly Baker's analysis. In section 2 and 3 I discuss the general properties of serial verbs and apply syntactic tests to the verbs to show that they are indeed serial verbs. I also show that Baker's analysis is inadequate for Tamil. In section 4 I present my modifications and show that it deals with Tamil serial verbs better than Baker's analysis. Section 5 concludes the paper.

## 1. Baker's analysis of SVCs

Baker (1989) describes SVCs as 'a sequence of verbs (that) appear(s) in what seems to be a single clause. Usually there is only one tense/aspect specification for the whole chain of verbs; the verbs also have a single structural subject and share logical arguments. Consider the following examples from Yoruba. (Baker (1989)).

(1) a. Ó mú ìwé wá.
he take book come

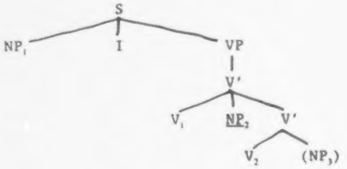
'he brought the book'

b. Fémi tì Akin subú
Femi push Akin down

'Femi pushed Akin down'

The structure proposed by Baker for SVO languages is as follows:

(2)



($NP_2$: shared object)

This structure is licensed by the Head Licensing Condition (HLC) which requires that each head be traced/project up to a single maximal projection. It also allows a single bar to be iteratively dominated by other single bars. The particular order of items is the result of the underlying principles of word order as given in Travis (1984) and Koopman (1984). This structure satisfies the theta criterion as stated in Chomsky (1986b) which allows more than one theta role to be assigned to an argument as long as it is to the same structural position.

Interestingly, the word order facts in SVCs from SOV languages support Baker's proposal. Thus, the following examples (Baker (1989)) from Ijo, an SOV language, show that although SOV languages are head final languages, the word order in SVCs in such languages is similar to the SVO languages. SOV languages are head final languages. Therefore, the structure predicted on the basis of word order should be NP $V_2$ $NP_1$ $V_1$. $NP_1$ is the shared object and $V_1$ follows $V_2$ rather than precede it. But, the actual structure is one that is the opposite: $V_1$ precedes $V_2$ similar to SVO languages. The only change is in the order of NPs that precede the respective verbs. $NP_1$, the shared object precedes $V_1$ and the unshared object. That is, SVCs in SOV languages have the following structure, $NP_1$ $V_1$ NP $V_2$.

(3) Áràụ́ ingo dérì pịtẹ-mị́
she trap weave set-past

'she wove a trap and set it'

(4) dúma tun-nì a-pírì
song sing-0 her-give

'sing a song for her'

In the above examples the underlined NP is the shared NP.

Finally, in Baker's analysis, he assumes that the features of Infl copy onto the head(s) of the VP. Copying of features is sensitive to the notion of head[1]. Therefore, either both verbs get all the features of Infl or only one verb ($V_1$) gets it. The following example is from Akan (Baker (1989)), where both verbs get the same agreement and inflection specification.

(5) me-yee adwuma me-maa Amma
1sS-do work 1sS-give Amma
'I work for Amma'

## 2. Serial verbs in Tamil

The following are some examples of serial verbs in Tamil.

(6) avaL bookk-e tukk-i yeriya-r-aaL
she book-ACC pick-PP throw-PR-3PSF

'she threw the book'

(7) Ramesh yena-kku woru paaTTu co(nn)-ll-i kuDu-kka-poo-r-aan
Ramesh me-DAT one song tell-PAST-PP give-INF-go-PR-3PSM

'Ramesh is going to teach me a song'

(8) avan yena-kku books-e ange ve(kk)-cc-u kuDu-tt-aan
he me-DAT books-ACC there put-PAST-PP give-PAST-3PSM

'he helped me put the books there'

In (6) tukki 'pick' subcategorizes for one object NP while yeri 'throw' also subcategorizes for one object NP. As analyzed by Baker, it is required by the Projection Principle that the two verbs share an argument. The underlined items are the shared objects.

What then is the difference between Tamil SVCs and those analyzed by Baker? The first difference and the central concern of this paper) is that the two verbs have different tense specifications. The clause final finite verb $V_1$, is marked for both tense and person/number/gender and may be marked optionally for aspect too. The other verb $V_2$ is always the past participle form. It does not show overt agreement. In the languages analyzed by Baker either both verbs were marked for tense, aspect and agreement or only one i.e., the primary verb, was.

The second difference deals with the order of the two verbs. In both, SOV and SVO languages, Baker finds the same order of verbs i.e., $V_1$ followed by $V_2$. The following example is from Ijo, an SOV language.

(9) Áràụ́ ingo dérì pịtẹ-mí
she trap weave set-PAST

'she wove a trap and set it'

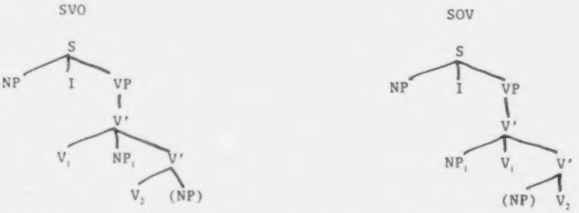
And the following example is from Yoruba, which is a SVO language.

(10) Ó mú ìwé wá
he take book come

'he brought the book'

The structure proposed by Baker therefore, is as follows.

(11)



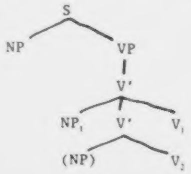
This structure for SOV languages cannot hold for Tamil. In Tamil verbs always appear at the rightmost end of a clause[2]. Thus, in a subordinate construction such as (12),

(12) avan$_i$ [PRO$_i$yenne aDi-kka] paa-tt-aan
he me hit-INF see-PAST-3PSM

'he tried to hit me'

aDi 'hit' is the final item in the lower clause and paaru 'see' is the final verb in the matrix clause. The lower clause verb must precede $V_1$ and all the NPs must occur before all verbs. Nevertheless, we can use the same principles that Baker assumes for his analysis to propose a different structure for Tamil. In Tamil, adjacency is not required for Case marking and neither Case marking nor theta assignment is to the right. Therefore, we can have an intervening V' between $NP_1$ and $V_1$. These facts lead us to posit the following structure for Tamil. (This structure will be later revised.)

(13)



This structure satisfies the word-order requirements as well as theta and Case assignment since adjacency is not required. Thus, $V_1$ assigns a direct theta role to $NP_1$, the shared object, while $V_2$ assigns an indirect theta role to $NP_1$. And $V_1$ follows $V_2$ and both follow all other elements in the clause.

This structure, however, still does not tell us how the two verbs get different tense specifications. At this point it may be argued that may be this concatenation of verbs is not a serial verb construction but a biclausal construction. In the following section I will show these constructions are indeed SVCs and not biclausal constructions.

## 3. Arguments for SVCs and against biclausal constructions

Sebba (1987) formulates the following as the main properties of SVCs.

1. Both verbs must be lexical i.e., they must be capable of appearing as a single verb in a simple sentence.
2. If it is possible to conceive of $V_1$ and $V_2$ as denoting separate actions at all then both must be interpreted as having the same tense and aspect.
3. Both must be interpreted as being within the same clause.
4. No conjunction should separate the verbs in sequence.

(3) is most important for us to show that the Tamil examples are indeed SVCs and not biclausal constructions.

We will consider first the scope of negation and adverbs in Tamil SVCs. In serial verbs each verb cannot be negated individually. The whole clause falls under the scope of one and only one negation.

(14) naan bookk-e tuukk-i yeriy-a-le
I book-ACC pick-PP throw-INF-NEG

'I did not throw the book'

(15) naan bookk-e tuukk-ame yeri-ndz-een
I pick-NEG throw-PAST-1PS

The only possible meaning for (15) is 'I threw (something) without picking the book'. If we have the negative morpheme attached to yeri 'throw' it can only mean that 'I did not throw'. There is no way that we maintain a single clause and negate the two verbs separately.

Similarly, an adverb can take scope over only one verb i.e., the verb it immediately dominates.

(16) Ramesh kuRandaixaL-ukku nannaa [paaDam colli kuDu-kkir-aan]
Ramesh children-DAT well lesson tell give-PR-3PSM

'Ramesh is teaching the children (the lessons) well'

(17) *... paaDam colli nannaa kuDukkiraan
lesson teach very gives

In its position in (16), the adverb can take scope over the whole VP. (17) is ungrammatical under the interpretation of the verb as a serial verb and the adverb as modifying only kuDu 'give'. This necessitates analyzing the sentence as biclausal. If we don't (as in (17) above), it is ungrammatical.

The other test that Sebba suggests is that if a construction is biclausal or a conjunction of two VPs then we should be able to reverse the order of the VPs.

(18) naan avan-ukku paaDam coll-i kuDu-kkir-een
I him-DAT lesson tell-PP give-PR-1PS

'I am teaching him a lesson'

(19) *naan avanukku paaDam kuDukkireen colli

(20) *naan avanukku paaDam kuDu-tt-u colla-r-een
I him lesson give-PAST-PP tell-PR-1PS

If (18) were a biclausal construction we should not have any trouble reversing the order[3]. The fact that we do get an ungrammatical result shows that this cannot be a biclausal sentence.

Moreover, any kind of conjunction or subordination would allow intervening elements between the two verbs. In Tamil, since the only condition is that verbs be clause final, we do get intervening NPs in biclausal constructions. But it is difficult to get intervening elements in a SVC without changing the whole meaning. As mentioned before, only in serial constructions in Tamil can we not have other constituents interrupting the adjacency of the two verbs. This, in view of the earlier mentioned fact that verbs can occupy only the clause final position, seems to indicate that both verbs are considered to be the head of a single VP.

That both verbs in a serial construction are treated as heads of a single VP is supported by the fact that each VP may get only one aspect specification. This aspect marker always follows the verbal head. Therefore, adding an aspect morpheme to $V_2$ in any of the SVCs should produce an ungrammatical (with a SVC reading) sentence, since $V_2$ is not the primary head and so it cannot take the inflectional specifications of the VP.

(21) pooliis tiruDan oLi-ndz-indu-iru-nd-a yeDatt-e kaND-u
police thief hide-PAST-PROG-be-PAST-RP place-ACC see-PP

piDi-cc-(vi)TT-aa
catch-PAST-PERF-3PPL

'The police found the place where the thief was hiding'

(22) *pooliis [tiruDan olindzinrinda yeDatte kaND-(vi)TTu] piDiccaa
see-PAST-PERF

If (22) were a biclausal construction it would not have been ungrammatical.

(23) naan avan-oDE pees-iTTu va-r-een
I he-GEN talk-PERF come-PR-1PS

'I will come after I have talked with him'

In (23), which is biclausal, if the first verb peesu 'talk' gets its own aspect specification, it is perfectly grammatical.

As a final piece of evidence for SVCs as opposed to biclausal constructions, let us look at relativization in Tamil. A typical strategy for relativization is to the use the relative participle marker a on the embedded verb. Thus, we have the following examples.

(24) naan avaL-e aDi-cc-een
I she-ACC hit-PAST-3PSM

'I hit her'

(25) Ramesh [naan aDi-cc-a avaL-e] paa-tt-aan
Ramesh I hit-PAST-RP she-ACC see-PAST-3PSM

'Ramesh saw her whom I hit'

In a biclausal sentence, we get

(26) naan books paa-tt-(vi)TTu inde shelf-le-daan vey-pp-een
I books see-PAST-PERF this shelf-LOC-EMPH put-FUT-1PS

'After finishing seeing books I keep them on this shelf only'

(27) naan [paa-tt-(vi)TT-a books-e] inde shelf-le-daan veppeen
see-PAST-PERF-RP

'I keep the seen books on this shelf only'

(28) [naan books paattuttu vey-kkir-a shelf] idu daan

'This is the shelf where I put the books after looking at them'

(29) a. avan inge kaar-le vandaan
he here car-by came

'he came here by car'

b. inge kaarle vanda avan
here by car came-RP he

'the one who came here by car'

c. *avan inge vanda kaar
he here came-RP car

'the car by which he came here'

(26-29) show that only those constituents that are subcategorized and theta marked by a verb can be relativized. In SVCs also, only the shared object can undergo this process, because only that NP is theta marked and subcategorized for by both verbs.

(30) naan avanukku saamaane ange veccu kuDutteen
I for him things there put gave

'I helped him put the things there'

(31) naan avanukku ange veccu kuDu-tt-a saamaan ...
I for him there put give-PAST-RP things

(32) *naan saamaan ange veccu kuDu-tt-a avan ...
I things there put give-PAST-RP he[4]

In (32) *avan* is not the shared object. It is subcategorized for only by *kuDu*, 'give' and not by both verbs. If this were a biclausal sentence we will not encounter this problem. Therefore, this also supports a serial verb analysis over a biclausal analysis of such sentences.

We have seen three tests, negation, adverbial scope and relativization, that can be used to show that the constructions being analyzed are indeed serial verbs and not biclausal constructions. In the next section we will present some word order facts that will reinforce a serial verb analysis and provide the basis for the present analysis.

## 4. *Issues*

### 4.1 *Tamil word order facts*

We will look at the following word order facts: position of finite and nonfinite verbs; negation; and modals.

Tamil allows only one finite verb in a sentence at the surface structure level[5]. And as mentioned earlier all verbs are in the clause final position. Consider (33a & b).

(33) a. [aattukku pooy-i] [kuLi-cc-u-viTTu] [kondzam naaRi
home go-PP bath-PAST-PP-PERF some time

tuung-i-viTTu] [appramaa phone paNNa-r-een]
sleep-PP-PERF after phone do-PR-1PS

'After going home, after having taken a bath, having slept for some time, I will give a call'

We have four clauses conjoined together and in each case the verb (though nonfinite) is clause final. There is only one finite verb, *phone paNNareen* which is *the* final element.

b. naan$_i$ [PRO$_i$ avane aDi-kka] paatteen
I him hit-INF saw

'I tried to hit him'

Both the lower clause verb, *aDi* 'hit', and the matrix verb, *paaru*, 'see', are in the final position of their respective clauses.

Modals[6] in Tamil are not marked for inflectional features[7]. They always follow an infinitive verb. Thus, we have the following:

(34) nii inde veley-e innikk-e paNN-a (ve)num
you this work-ACC today-EMPH do-INF must

'you must do this work today'

(35) naan naaLikki niccyam-aa var-a muDiyum
I tomorrow definite-ADV come-INF can

'I can definitely come tomorrow'

(36) avan poo-ka-laam
he go-INF-may

'he may go'

The negative marker always follows the modal[8].

(37) nii vele paNN-a muDiy-aadu
you work do-INF can-NEG

'you cannot work'

In verbal sentences[9], negation is expressed by two forms. One, the negative morpheme which attaches to the infinitive form of the verb. This construction is unmarked for tense/agreement.

(38) naan uuru-kku poo-ka-le
I village-DAT go-INF-NEG

'I am not going to the village'

This can also mean I did not/will not go to the village. Two, there is a negative morpheme that is inherently marked for future tense. This negative morpheme allows agreement specification, but itself follows the infinitive form of the verb[10].

(39) avan inde paaTTu paaD-a maaTT-aan
he this song sing-INF NEG-3PSM

'He will not sing this song'

On the basis of these facts I will propose the following underlying structure for Tamil:

(40) [$_{IP}$ SPEC [$_{I'}$ I [Modal/Neg [$_{AgrP}$ Agr [$_{VP}$ V]]]]]

The facts discussed above are crucial for my analysis. I would like to claim that while there is a close relation between the Infl node and Agr node, Tense may only be a morphological instantiation of a +/-finite feature on Infl. In my analysis I will be dealing with the following questions:

a. Why is $V_2$ in SVCs a participle?

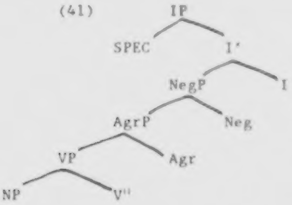
b. Why is $V_2$ not specified for aspect even though it is for tense?

c. Is there a V-to-I movement a la Pollock (1989) and Chomsky (1988) in Tamil?

## 4.2 Nature of the Infl and Agr node in Tamil

Following Pollock (1989) I will assume that Infl and Agr head separate maximal projections. I will also assume following Pollock (1989) that IP dominates AgrP. When a NegP is present, it will dominate AgrP and be dominated by IP. The structure that I will assume is as in (41).

(41)



I propose that in Tamil the Infl node is filled with a [+/- finite] feature or 0/null features. The nature of the Agr node is dependent on the nature of the Infl node governing it. The definition of government that I am assuming is as proposed by Belletti and Rizzi (1981).

(42) a governs b in a configuration like $[_a \ldots b \ldots a \ldots b]$ where:

1. $a = X^0$.

2. where Y is a maximal projection, if Y dominates b, then either Y dominates a, or Y is the maximal projection of b.

3. a c-commands b

C-command is defined as

> a c-commands b iff a does not dominate b and every maximal projection that dominates a dominates b.

Thus, in a configuration such as (43)

(43) $\ldots V \, [_{CP} \text{ Spec } [_{C'} \text{ C IP}]]$

V can govern CP and therefore, both its Spec and head positions. However, V cannot govern IP. Keeping in mind that in serial verb constructions there are two verbal heads contending for government by a c-commanding head, a slight modification to the above definition is required which can be informally stated as follows:

> A head may govern only a single maximal projection and a single head of that MP.

With this modification in mind, let us look at the featural relationship that I am proposing between Agr and Infl. My claim is that a featural relation explains why Tamil serial verbs are different from the languages analyzed by Baker. In his analysis of the European Portuguese inflected infinitive, Raposo (1987) proposes an Infl parameter. Basically, this parameter tells us if Infl has a +/- value for [Tense]. I will propose that rather than [Tense], this parameter deals with a +/- value for [Finite]. In addition to these two values I will also allow the third possibility of a null Infl. Raposo claims that once Agr is positively specified, Infl will obligatorily be [+Tense]. I will endorse the opposite. That is, if Infl is positively specified for [Finite], Agr must also have the same value for its features. This will be ensured through head to head government as defined earlier. These two specifications together give us the following possibilities[12]/[13].

(44)

| Nodes | Possible Feature Values | | | | |
|---|---|---|---|---|---|
| Infl | +Finite | +Finite | -Finite | -Finite | Ø |
| Agr | +AGR | -AGR | +AGR | -AGR | Ø |

[+Finite, +Agr] results in a finite verb. And null features result in an infinitive. Of interest to us is the fourth column, [-Finite, -Agr]. Unlike previous claims, I will propose that it is null features that give us an infinitive verb rather than [-Finite, -Agr]. [-Finite, -Agr] will give us the participle form of the verb. The mechanism for this is as follows: The morphological instantiation of [+Finite] on the verb is [+/-PAST]. [+PAST] covers both the regular past tense and a default value that is the morphological realization of [-Finite, -Agr]. Since [+PAST] also functions as the default tense, it will be treated as a dummy tense. A null Infl, as in the last column, cannot license any feature on Agr. Therefore, Agr will be also null. This results in the infinitive. All three forms - non-finite, finite and participle - are found in Tamil. The second ([+Finite], [-AGR]) and third ([-Finite], [+AGR]) options are possibilities for nominative assignment in infinitives in West Flemish and the inflected infinitive in Portuguese respectively[14].

Infl can license the spec of IP position only if Infl is filled. There are two ways a verb can get the default tense/agreement inflection: One, if it is governed by a [-AGR] Agr which is governed in turn by a [-Finite] Infl;

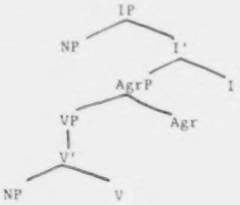
or if it is not governed at all. The second instance allows Tamil to have SVCs in which $V_2$ is a participle (the dummy inflection for the verb). A featural relation is thus, allowed by head to head government. $V_2$ in such cases is licensed by the Head Licensing Condition which requires that each head be traced up to a maximal projection. Such featural relations dependent on the notion of government provide support to the modification made to Belletti and Rizzi's definition of government that is, no more than one head can be governed by another head at any one time. In serial verbs, we need to make sure that only $V_1$ is governed by the c-commanding head, Agr, because only $V_1$ gets inflectional specifications. $V_2$ gets the default specifications. This is ensured by the fact that $V_1$ is structurally the first head.

If we follow Pollock (1989) and Mahajan (1989) who assume V-to-I movement for French and Hindi respectively, we soon run into trouble. The reason is as follows. In a serial verb there are two verbs contending for one set of Infl and Agr features. If we assume movement, we cannot explain why both verbs do not get the same inflectional specifications[15]. Also word order facts as outlined in 4.1 cannot allow movement of a verb into Infl position: negatives and modals are not specified for tense and prevent such specification on the verb. Yet the clause is finite.

Syntactic movement of V-to-I has been motivated by word order and morphological facts. If there is only one Infl, but two V-heads and both get a different kinds of inflectional marking, how can we explain it by movement to a single Infl[16]? The answer is that there is no movement to either Agr or Infl. These nodes have only features and do not have any morphology. That it is necessary to have the actual morphological instantiation of these features in the morphological component is evidenced by the fact that there are underlying morphological principles common to both inflection and derivation[17].

Does this analysis make the correct predictions given the facts of Tamil word order? Let me repeat the structure that I am assuming for a monoclausal construction.

(45)



In (45), there are two possible ways for the verb to be an infinitive (either as in an embedded clause or as in a clause with a modal or negative). One, if Infl is null or, government of Agr by Infl is prevented by an intermediate maximal projection. Agr would then be null and as mentioned earlier a null Agr will result in an infinitive. I propose that Tamil takes this second option in constructions with modals and negatives. Modals and negatives are XPs that appear in a position between IP and AgrP as in (46).

(46) $[_{IP} \quad [_{I'}\ I\ [_{XP}\ X\ [_{AgrP}\ Agr\ [_{VP}\ [_{V'}\ NP\ V]\ ]]]]$[18]

This structure also explains why only verbs are specified for both tense and agreement: Only a combination of [+Finite] and [+AGR] features results in inflection on the verb. A modal (when it does appear) is the head that is governed by Infl. But the modal is not governed by Agr and therefore, has no agreement. Modals also, do not have any tense marking. Therefore, it crucial here that only a certain combination of features will result in inflectional specification. Modals are governed only be Infl and never by Agr. Therefore, they can be [+Finite]. But, they will not have specification for tense/ agreement. The same argument holds for negatives[19]. Since, negatives are governed by a [+Finite] Infl, they must specify some temporal location. At the same time, they can be neutral too, because they don't have an overt manifestation of finiteness in terms of tense not being governed by [+Agr] also.

### 4.3 Reanalysis of SVCs

Let me reiterate the main problem with Tamil serial verbs. Unlike the SVCs analyzed by Baker (1989) and others, Tamil SVCs are different in that the two verbs get different tense specifications. If we assume copying of features as does Baker, we cannot explain why different features copy down to the two verbs. We also cannot explain why only one verb can get tense, aspect and agreement while the other can get only tense. If we assume V-to-I movement as suggested by Pollock (1989) we still cannot explain why in Tamil serial verbs we get different tense specifications. We also cannot explain why in sentences with modals, negatives and in causative constructions involving serial verbs, the second verb is still always the past participle[20].

Let us look at Tamil SVCs again.

(47) avaL bookk-e tuukk-i yeriya-r-aaL
she book-ACC pick-PP throw-PR-3PSF

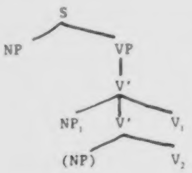
'she threw the book'

(48) Ramesh yena-kku woru paaTTu coll-i kuDu-tt-aan
Ramesh me-DAT one song tell-PP give-PAST-3PSM

'Ramesh taught me a song'

Reiterating the structure proposed earlier, we get

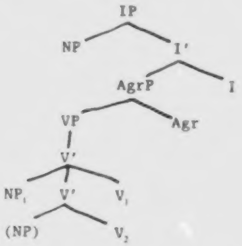
(49)



NP$_i$ is the shared object that is theta marked by both verbs. If we add the

Infl and Agr nodes we get the following revised structure.

(50)



As mentioned in the paper earlier, $V_2$ gets the past participle features by default since that position is not governed by Infl. In view of this proposal if we look at negation, causativization and embedding involving serial verbs, we see that we can make the right prediction.

Negatives and modals are not marked for tense or agreement. The verb $(V_1)$ in such cases is an infinitive. In a serial verb we would predict that no matter what $V_2$ will be a participle since it is not governed by Infl. This is exactly what we find.

(51) naan bookk-e tuukk-i yeriy-a-le
I book-ACC pick-PP throw-INF-NEG

'I did not throw the book'

(52) naan avan-ukku caappaaDu paNN-i kuDu-kka-num
I he-DAT food make-PP give-INF-must

'I must make food for him'

In causatives like (53), the causative verb (similar to 'make' in English) always follows the infinitive form of the causativized verb. In causativized serial verbs, the first verb is an infinitive. However, the second verb is still a participle. If tense and agreement were merely the result of copying of features from Infl, or due to movement to Infl we cannot explain this.

(53) Sita Ramesh-e yena-kku paaTTu coll-i kuDu-kka vey-cc-
Sita Ramesh-ACC me-DAT song tell-PP give-INF keep-PAST

aaL
3PSF

'Sita made Ramesh teach me (the/a) song'

## 5. Conclusion

In the analysis of Tamil serial verbs, I have shown that while we can extend Baker's analysis by using the same underlying principles, his

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explanation is inadequate in some respects. My analysis crucially differs from Baker's in that I propose to have a featural relation between the Infl and Agr nodes. I have also argued that tense may be only a morphological instantiation of [Finite] but that syntactically [Finite] is the relevant feature. Finally, I propose that there is no V-to-I movement in Tamil. Instead tense/agreement specification is the result of a featural relation existing between the Infl and Agr nodes which in turn determine the form of the verb. With a slight modification to Belletti and Rizzi's definition of government to avoid government of a second head dominated by the same XP, we can get the desired result.

## 6. Suggested Future Research

Baker (1989) admits that there is no underlying principle that determines whether a language is going to have serial verbs or not. One possible explanation could be that SVCs are possible only in languages that do not allow V-to-I movement. Instead, such languages have a feature relation between Agr and Infl licensed under government.

## Notes

*I would like to thank Tom Ernst for his valuable help and discussion and assisting me in developing my idea.

1. In footnote 7, Baker suggests that languages either mark both verbs (assuming that both verbs are treated as primary heads) or mark only $V_1$ since structurally it is the primary head.

2. The only exception to this are focus constructions.

3. As Sebba (1987) points out, often reversing the ordering may produce a pragamatically unacceptable sentence but never an ungrammatical sentence.

4. In fact if we want to relativize an unshared object, WH items such as yaaru 'who' are used and pronouns are used coreferentially.

5. An exception to this is reported speech.

6. Modals cannot be treated as real verbs because one, they never take agreement or tense specification which is a property of verbs only; two, they do not seem to subcategorize for any NP arguments unlike verbs; and three, they do not seem to participate in relativization as do verbs. Here, I will treat them as having their own maximal projection dominated by IP.

7. Inflectional features here include both tense and agreement features.

8. The modals corresponding to must and may take the suppletive form, kuuD-, when a negative morpheme is added. For example,

| | | |
|---|---|---|
| appDi | pees-a | kuuD-aadu |
| that way | talk-INF | must/may-NEG |

'(you/one) must/may not talk like that'

9. As opposed to copular sentences, which seem to take what has been analyzed as a negative verb, illle 'is not'

10. The other negative form ille typically follows (or cliticizes) the nominalized form of the verb. The verb in such cases can take any tense marking. In such sentences, I will assume that the negative behaves like a verb just as in copular sentences.

naan avan-e paa-tt-adu-ille
I he-ACC see-PAST-NOM-NEG

'I have never seen him'

(more like 'I have not done the act of seeing him')

11. Where Spec position is not crucial, I have omitted to mention it. Also, the debate about VP internal subject is not crucial to my analysis and therefore, I will assume that the subject NP is in the Spec of IP.

12. The idea of [+/-Finite] Infl governing the nature of tense and agreement on the verb is not a new idea. Haegeman (1985) argues for something similar to account for nominative case assignment in Flemish infinitivals.

13. Brian Joseph brought it to my notice (p.c) that in English subjunctive clauses we need to separate finiteness from tensedness. Consider (1).

(1) I require that he be here.

Be is morphologically "nonfinite" since it has the same form as the infinitive to be, but subjunctive complements are syntactically finite in that they are introduced by the complementizer that, allow nominative pronoun subjects. They are different from other complement clauses in that subjunctives complements are untensed and so negate differently.

(2) a. I require that he not be late.

b. I believe that he is not coming.

14. For a different analysis of European Portuguese, please refer to Raposo (1987).

15. The term 'inflectional' is used here as a cover term for both Infl and Agr features.

16. Raposo (1987) argues for the feature TENSE in C. This favors my analysis because in other languages also there is a need to differentiate overt tense from featural tense. Possibly, when featural tense is present in C, it is realized as [+/-TENSE] and when it is in I(nfl) it is realized as [+/-Finite].

17. See Scalise (1984).

18. XP here can either be a modal or a NegP.

19. The only exception to this is the negative morpheme, maaTT-. I will claim that it is an exception because it is inherently specified for tense and agreement. This is supported by the fact that this morpheme is used only in the future tense. The other negatives are temporally neutral.

20. The first verb in such constructions is always in the infinitive. But this is to be expected in my analysis.

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# Constraints on intransitive quasi-serial verb constructions in modern colloquial English

Geoffrey K. Pullum

University of California, Santa Cruz

## 1. Traditional grammarians on *go get*

It is highly unusual to find a construction in modern English that is overlooked or misdescribed by classic descriptive works like Jespersen (1949), Poutsma (1926), Quirk et al. (1985), and the *Oxford English Dictionary*. One such construction, however, is exemplified by the familiar song titles in (1).[1]

(1) a. **Come fly** with me.
 b. **Come see** about me.
 c. **Go tell** it on the mountain.
 d. **Go stick** your head in a pig.[2]

This construction, with its bare infinitive verb phrase after an imperative or bare infinitive *come* or *go*, is a familiar feature of American speech, especially in imperatives like those in (1), yet also has a long history in the best English literature, as seen in (2).

(2) a. Come live with me and be my love . . .
 b. Kill then, and bliss me, / But first come kiss me.
 c. Since there's no help, come let us kiss and part . . .
 d. Go hang yourselves . . . you shall never want rope enough.
 e. Go tell the Spartans, thou who passest by . . .
 f. Come let us mock at the great . . .

Example (2a) is from Christopher Marlowe ('The Passionate Shepherd to his Love', c. 1589), and some decades later was quoted exactly in a semi-parody by John Donne ('The Bait'); (2b) is from an anonymous author collected in Thomas Morley's *First Book of Ballets* (1595); (2c) is in one of Michael Drayton's *Poems* (published in 1619); (2d) is addressed to the author's critics in the seventeenth century English translation of Rabelais' *Gargantua and Pantagruel* published by Sir Thomas Urquhart and Peter Anthony Motteux; (2e) is found in a translation by W. L. Bowles of Simonides; and (2f) is taken from William Butler Yeats' *Nineteen Hundred and Nineteen* (published in 1928).[3]

From now on, when I need a name for the construction that does not beg any analytical questions, I will refer to it as the *go get* construction, and I will refer to the verbs in the *go* and *get* positions as V1 and V2, respectively.[4]

The examples of *go get* in (2) are from well-known passages of verse and prose, all found within a few minutes through *Bartlett's Familiar Quotations*. But *go get* fares poorly in the great twentieth-century descriptive grammars of English, which tend to exaggerate considerably the degree of its 'archaic' or 'dialectal' status (if they do not miss it entirely).

Poutsma (1926: 426) says that 'After *to come* the bare infinitive has become obsolete,' and adds that 'The *O.E.D.* (s.v. *come*, 3, e) mentions no later instance than one dated 1647.' Poutsma goes on to say that '*To go* is found with the bare infinitive in the latest English, but except for dialects, only archaically (*O.E.D.*, s.v. *go*, 32, a).'

The *OED* references do indeed affirm archaicity for the *go get* construction. Subsection 3e of the B (Signification) section of the article on *come* begins with the dagger sign that indicates obsolescence, and states that 'Formerly the *infin.* was used without *and*.' The illustrative examples are dated between *c.* 1430 and 1647. In the 12-page, 94-section *go* article, the possibility of expressing 'the purpose or motive of going with a bare infinitive is described as 'now *arch.* and *dial.*,' and examples are cited from 1375 to 1890 (the latter being indeed very archaic-sounding: 'As to a hauberk I must needs go lack').

In similar vein, Jespersen (1949: 247ff) says, 'In former times *to* was not necessary after *go*.' Jespersen does acknowledge, however, that bare infinitives are found after *come* and *go* 'here and there, chiefly in colloquial or even vulgar speech' (p. 248).

Most traditional grammars published after 1950 seem to have missed *go get* altogether, as if it had died out. For example, as far as I have been able to determine, the *go get* construction is not mentioned at any point in Curme (1931), or even in *A Comprehensive Grammar of English* by Quirk et al. (1985), despite the remarkably broad coverage of the latter work.

Perhaps the most perceptive account of *go get*, however, is that given by a relatively recent work, Visser (1969: 1391ff, sections 1312–1322). Visser does open his discussion of *come* by saying (like the *OED*) that 'Till about the end of the sixteenth century both plain and prepositional infinitives were used [after *come*], but afterwards the plain infinitive gradually dropped into desuetude' (p. 1391); but he also mentions the American English situation, which the other works fail to do: 'Colligations with *go get* (in e.g. 'Don't go get all worked up') are a favorite idiom there [in American English],' he remarks (p. 1396).

But Visser proceeds to a claim about American English that I have not found to be true for most speakers: he states that 'Combinations with a finite form of *go* (e.g. 'They went look for him') are still met with in American English.' I do not find such expressions in my daily contact with American English. Indeed, the most linguistically remarkable fact about the *go get* construction is what I shall call (with intended vagueness) the *inflection condition*: for the majority of speakers, any overt sign of inflection on either of the verbs in the *go get* construction renders it ungrammatical:

(3) a. Go get the paper.
b. I told you to go get the paper.
c. Every day I go get the paper.
d. *Every day my son goes get the paper.
e. *I went get the paper.
f. *Going get the paper is not my job.
g. *My dog has gone get the paper.

The same grammaticality pattern is seen with *come* as the V1:

(4) a. Come get the paper.
b. I told you to come get the paper.
c. Every day I come get the paper.
d. *Every day my son comes get the paper.
e. *I came get the paper.
f. *Coming get the paper is not my job.
g. *My dog has come get the paper.

A few other verbs are permitted for some speakers: *Run get the paper* is fine for many, and *Hurry get the* *paper* for some, for example. The class, however, is very small, and invariably contains *go*.

I am not denying the relevance and interest of the dialects of those speakers for whom the starred examples in (3) and (4) are fine; I will return later to the dialect variation issue, which is very important to the study of the inflection condition. First, however, I want to distinguish the *go get* construction from a number of others that are comparable to it in some ways but contrast with it in others.

## 2. Other relevant constructions

The *go get* construction must be distinguished from ordinary infinitival complement constructions that involve a complement VP with a bare infinitive. One class of verbs governing a bare infinitive complement VP is the modals, illustrated with *will* in (5). There appears to be an inflection condition here too, but in fact it is simply the lack of any nonfinite forms in the paradigms of the modal verbs that renders the starred forms ungrammatical; the resultant grammaticality pattern is completely different from that seen in the *go get* construction: representing ungrammatical strings by '*' and grammatical ones by '!', (3) shows the pattern '!!!****', while the modals show the utterly different pattern '**!!!**':

(5) a. *Will get the paper.
b. *I told you to will get the paper.
c. Every day I will get the paper.
d. Every day my son will get the paper.
e. I would get the paper.
f. *Will(ing) get the paper is not my job.
g. *My son has will(ed) get the paper.

Bare infinitive VPs as an alternative to full infinitives with *to* are also selected, apparently uniquely, by one nonauxiliary verb, namely pseudo-intransitive *help* (with the sense 'help someone'; see Visser 1969: 1353f), as illustrated in (6). Here, without the limitation of the defective paradigm of the modals, no sign of an inflection condition appears.

(6) a. Help get the paper.
b. I told you to help get the paper.
c. Every day I help get the paper.
d. Every day my son helps get the paper.
e. I helped get the paper.
f. Helping get the paper is not my job.
g. My son has helped get the paper.

The same pattern is seen when bare infinitive VPs are selected by verbs of the *make/let* causative class (and also sensory perception verbs like *see* and *hear*), as seen in (7).

(7) a. Make the dog get the paper.
b. I told you to make the dog get the paper.
c. Every day I make the dog get the paper.
d. Every day my son makes the dog get the paper.
e. I made the dog get the paper.
f. Making the dog get the paper is not my job.
g. My son has made the dog get the paper.

Next, note that there is a variety of other constructions involving VPs selected by the basic motion verbs *go* and *come* that figure in the *go get* construction. One independently interesting one is illustrated in (8).

(8) a. Go fishing.
b. I told you to go fishing.
c. Every day I go fishing.
d. Every day my son goes fishing.
e. I went fishing.
f. Going fishing is not my job.
g. My son has gone fishing.

Again there is no inflection condition; the form of the complement verb is governed — it must be a present participle — but the first verb can be in any form in the paradigm. A curious semantic constraint (described by Silva 1975) is associated with this construction: the complement verb must denote an unstructured physical activity that is either recreational or aimed at gathering an acquiring physical objects, and typically involves random peripateticity. Thus, you can go fishing at this or that water hole or streamside, or go drinking at a selection of bars, but you cannot 'go smoking' or 'go thinking' or 'go piano-playing'. (Silva does not happen to mention it, but *come* can be substituted for *go*, and the semantic restriction remains: a friend can say 'Come drinking with us' is an interpretable invitation because of the recreational activity of bar-hopping, but a smoker in a smoke-free building cannot say 'Come smoking' to invite a fellow addict outside for a nicotine fix.) This construction has nothing to do with the *go get* construction; it may not even involve a complement verb (Silva argues that the *-ing* form is an adverb). I mention it here only to give it the name 'the *go fishing* construction' so I can refer to it later.

More relevant is what I shall call the *go & get* construction, the pseudocoordinate complement construction with basic motion verbs illustrated in (9), where '&' represents the reduced pronounciation of *and* that is spelled '*n*' in phrases like *rock 'n' roll*.

(9) a. Go & get the paper.
b. I told you to go & get the paper.
c. Every day I go & get the paper.
d. *Every day my son goes & get the paper.
e. *I went & get the paper.
f. *Going & get the paper is not my job.
g. *My dog has gone & get the paper.

This sort of use of *and* has occasionally (e.g. by Poutsma 1926 and Visser 1969) been called *hendiadys* (a term that Latin grammarians employed for the use of two words linked by a conjunction to express a single complex idea).

There is nothing special about the dialect that the judgments in (9) represent, of course. Philip Miller has pointed out to me that in J. D. Salinger's *A Perfect Day for Bananafish* Mrs Carpenter says to her little girl, 'Now run and play, pussy. Mommy's going up to the hotel and have a Martini with Mrs Hubbel.' Clearly, Mrs Carpenter would probably not have regarded (9f) as ungrammatical; for her, pseudocoordinate infinitival VPs have a wider distribution than they do in the dialects I am referring to here.

The same grammaticality pattern is found when *come* rather than *go* is the V1 of the *go & get* construction:

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(10) a. Come & get the paper.
b. I told you to come & get the paper.
c. Every day I come & get the paper.
d. *Every day my son comes & get the paper.
e. *I came & get the paper.
f. *Coming & get the paper is not my job.
g. *My dog has come & get the paper.

But there is a critical difference between the *go get* and *go & get* constructions. If we change the paradigm form of V2 in the starred cases of the *go get* construction to whatever matches V1, the examples remain just as ungrammatical as before for most speakers, as seen in the representative set of judgments in (11); but in the *go & get* construction they become grammatical, as shown in (12), a set of examples that virtually every speaker will accept.

(11) a. *Every day my son goes gets the paper.
b. *I went got the paper.
c. *Going getting the paper is not my job.
d. *My dog has gone gotten the paper.

(12) a. Every day my son goes & gets the paper.
b. I went & got the paper.
c. Going & getting the paper is not my job.
d. My dog has gone & gotten the paper.

In *go & get*, inflection is allowed provided both verbs represent the same form of the paradigm, whereas in *go get*, no inflection at all is allowed, matching or not.

Different from all the constructions already discussed is another pseudocoordinate complement or hendiadys construction, found with *try* and one or two other predicates (including *be sure* for many speakers); I will call this the *try & get* construction. It is illustrated in (13).

(13) a. Try & get the paper.
b. I told you to try & get the paper.
c. Every day I try & get the paper.
d. *Every day my son tries & get the paper.
e. *I tried & get the paper.
f. *Trying & get the paper is not my job.
g. *My dog has tried & get the paper.

I am interested in the readings of these examples that do not involve null complement anaphora in the *try* clause, i. e. the reading of (13a) under which it means simply 'Try to get the paper.' Here the effects of changing V2 from base form to whatever matches V1 exactly parallels what we find in the *go get* construction: it produces only ungrammaticality.[5]

(14) a. *Every day my son tries & gets the paper.
b. *I tried & got the paper.
c. *Trying & getting the paper is not my job.
d. *My dog has tried & gotten the paper.

The *try & get* construction is thus like the *go get* construction in having the inflection condition, but like *go & get* in containing an occurrence of (what is ordinarily) a coordinate conjunction morpheme.

## 3. The generative literature

The literature of generative grammar has occasionally treated one or more of this collection of constructions, but as usual, the pattern of attribution, citation, and recognition of previous results in the generative literature is nothing less than a disgrace. Zwicky (1969), Stahlke (1970), Perlmutter (1971), Shopen (1971), and Carden & Pesetzky (1977) all briefly discuss either *go get* or *go & get* or both, but entirely in isolation: not one of these works indicates any knowledge of the previous contributions.[6]

This is not a complaint merely about citation etiquette, but about the task of linguistic analysis. There are numerous shortcomings in this cluster of works, many of which could have been avoided if later works had made use of the content of earlier ones and avoided the pitfalls they pointed out.

Zwicky (1969) is the earliest published discussion I know of. It is superior to all subsequent works in its coverage of the facts and in the distinctions it draws between the different constructions, but it opts for deriving *go get* by deleting the *and* from *go & get*, and I believe this is incorrect.

Stahlke's brief mention of *go & get* (1970, 91–92) is of interest in that it is the first work to link discussion of the constructions considered here to the topic of serial verb constructions in West African languages. It cites Ross (1967: 170) as the source for the existence of the *go & get* and *try & get* constructions (plus the construction *Be nice & kiss your granny*, if that is distinct from the latter) and for a key fact about them, that they are not subject to the Coordinate Structure Constraint. Stahlke notes that *go & get* yields inchoative/causative alternations (15a, b), that it is incompatible with passivization (15c), and that tense, aspect, and modality must be shared between the two verbs (15d–f).

(15) a. The bottle went and broke.
b. John went and broke the bottle.
c. *The bottle is gone and broken.
d. *The bottle goes and broke.
e. *The bottle went and has broken.
f. *The bottle went and will break.

He also states that V2 cannot be negated in the *go & get* construction; as I mention below, I do not think this is correct. Missing from Stahlke's discussion, however, is the *go get* construction, which seems even more relevant to a consideration of standard West African serial verbs, and the pattern found in Fe'fe', where serial verbs display an overt conjunction and thus parallel English *go & get* instead.[7]

Perlmutter (1971: chapter 3) proposes a surface structure constraint to handle the inflection condition on *go get*, but fails to note that Zwicky (p. 439) had given an argument against that two years before. Perlmutter's account of his surface constraint is too sketchy to be evaluated; for one thing, it is described as a constraint on 'the *go* VERB construction,' which begs all theoretical questions: the key problem is how the constraint can tell when it is looking at an instance of *go get* as opposed to some other construction (perhaps *go fishing*) in which a form of *go* happens to be left-adjacent to a verb.

Shopen (1971) proposes that the V1 items of the *go get* construction are in the process of becoming modals, when the grammaticality pattern is utterly different (as shown above by (3) and (5)) and all the relevant syntactic evidence about modals (from inversion, negation, etc.) reveals that the V1 of *go get* has nothing in common with them (as Shopen acknowledges on p. 256). He has some useful syntactic and semantic observations along the way, but his conclusion that *go* and *come* 'are moving into the modal category' seems completely incorrect.

Carden & Pesetzky's paper is the most recent discussion I know of, but also the least successful in advancing our understanding of this cluster of constructions. Carden & Pesetzky equate the *go & get* and *try & get* constructions (though Zwicky carefully distinguished them). They mistakenly take the inflection condition on *try & get* to apply to *go & get* when (as Zwicky recognized) it plainly does not. They espouse what is essentially Zwicky's analysis (deriving *go get* transformationally from *go & get*) despite the fact that Shopen provided a number of good arguments that it was wrong. And finally, rejecting as 'ad hoc' the rule that Zwicky used to capture the inflection condition, the Carden & Pesetzky analysis ends up with no account of that condition at all: having equated *go & get* with *try & get*, the authors assume that deriving *go get* from *go & get* will cause the inflection condition of *try & get* (of which they do not actually have any formal account anyway) to carry over to *go get*.

This is all the immediately relevant published literature that I am aware of. It is quite possible that the unpublished papers are worse. There seem to be plenty of them: I have seen references to papers by Cohen (1968), Faraci (1970), Linthicum (c. 1970), and Levi (1971); there are probably others. The existence of the construction and the problem of the inflection condition were first pointed out to Arnold Zwicky by John Robert Ross (see Zwicky (1969: 458, n. 20) in the middle 1960s, and the topic seems to have spawned isolated term paper projects and conference presentations all over the United States since then, all by people who did not know about each other.

## 4. The analogy with serialization

An interesting aspect of the constructions under consideration is the degree to which they are reminiscent of what at least some authors have included under the heading of serial verb constructions. Baker (1989) limits the application of the term 'serial verb construction' to the case of superficially objectless transitive VPs added after a transitive VP and sharing its object semantically, as in (16) and (17) from Sranan (English-based creole, Surinam; examples from Baker 1989: 516):

(16) Kofi naki Amba kiri
Kofi hit Amba kill
'Kofi struck Amba dead.'

(17) Mi fringi a batra broko
I threw the bottle broke
'I threw the bottle and broke it.'

He argues, following Sebba (1987), that cases like the *go get* construction involve simply nonfinite clauses as complements to intransitive verbs (see p. 532–3, n. 13). Likewise, Seuren (1990), while not taking quite as narrow a view of serial verbs as Baker, does not regard the *go get* construction as instantiating serialization, but rather some kind of 'governed pseudocomplementation' that is more restricted than serialization.

It is not important to arrive here at a decision on the purely terminological issue of what to reserve the term 'serial verb' for, but I note that many writers have included under this heading the correspondents of the *go get* pattern in various languages.

It is worth noting that in addition to the parallels to the English *go get* construction that are often noted in languages with serial verbs, there are serial verb languages that have exact analogs of the *go & get* construction. For example, Hyman (1971) discusses what he calls 'co-ordinate consecutivization' in Fe'fe', and gives examples such as (18).

(18) a ka sá' nzā wúzā
he PAST come &-eat food
'He came and ate.'
(Hyman 1971: 31)

The V2 here shows a reduced prefixal form of a coordinate conjunction morpheme (coincidentally identical in phonological shape to its English equivalent, *n-*). Hyman treats this kind of example alongside cases with the instrumental kind of serialization among others:

(19) a ka láh piɛ ncwēe mbáa
he PAST take knife &-cut meat
'He cut the meat with a knife.'
(Hyman 1971: 30)

It seems likely that there is a further parallel with English, though it is represented by Smith & Wilson (1979: 258), citing an unpublished paper of Smith's, as a contrast between the two languages. Smith & Wilson claim that extraction is possible out of Fe'fe' coordinate structures, but their lone example is highly suspect: it reads *wa ta a la cwee mbaa m-ben* (with no tone marks), and is glossed 'who topic he past cut meat and thank' (with no sentence translation; note that the morpheme gloss does not even make it clear where or what the subject NP is). Smith & Wilson represent this single example as 'a clear violation of the supposedly universal' Coordinate Structure Constraint, hence evidence of a major difference between Fe'fe' and languages like English which obey the Coordinate Structure Constraint. It seems to me highly likely that it represents instead a remarkable parallel between Fe'fe' and English. I suggest that both have a coordinate consecutive serial verb construction of the *go & get* type, and both permit extraction out of it. For English, this is well known, and was noted by Ross (1967), as Stahlke (1970) observes. In Fe'fe', I suspect that the actual situation is exactly comparable to what Sebba (1987) shows for Sranan (cf. Baker 1989: 548): extraction of the object from a serial verb construction is possible, but extraction from a true coordination is not:

(20) a. Kofi teki a nefi koti a brede.
Kofi take the knife cut the bread
'Kofi took the knife and cut the bread [with it].'
b. San Kofi teki a nefi koti ___?
what Kofi take the knife cut
'What did Kofi take the knife and cut?'

(21) a. Kofi sutu Amba kiri Kwaku.
Kofi shoot Amba kill Kwaku
'Kofi shot Amba and killed Kwaku.'
b. *Suma Kofi sutu Amba kiri ___?
who Kofi shoot Amba kill
*'Who did Kofi shoot Amba and kill?'

My conjecture (as yet unchecked) is that exactly this pattern of grammaticality would be found in corresponding Fe'fe' examples. It still seems likely that no language allows extraction from regular coordinate conjunctions.[8]

The definitional question of whether we really want to use the term 'serial verbs' for any of the the English constructions discussed above is not important. I will temporize, using the terminology of my title, and will refer to intransitive 'quasi-serial' verbs as I move on to consider specific aspects of the

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analysis of these constructions.

### 5. *Go get* is not simply *go & get* sans conjunction

The *go get* construction is not to be analyzed as simply the *go & get* with its coordinating conjunction elided.[9] Shopen presents several arguments for this point.

One syntactic argument is that *go get* can be stacked while *go & get* cannot. Thus while (22a) is a grammatical *go get* construction, (22b) is interpretable only as an ordinary coordination.

(22) a. Come go eat with us.
b. Come & go & eat with us.[10]

There is syntactic support for this that is not noted by Shopen. Extraction is possible from the complement of V2 in a *go get* construction, as seen in (23a), but (23b) seems ungrammatical, which suggests that there is no such possibility if more than two verbs are involved:

(23) a. What would you like to come go eat?
b. *What would you like to come and go and eat?

Shopen also notes some rather clearer evidence (due to Dwight Bolinger) based on semantic properties distinguishing *go get* from *go & get*. One is that *go get* has a volitional quality not exhibited by *go & get* so that (24a) is uninterpretable but (25b) is fine.

(24) a. *Sometimes driftwood may come wash up on the beach.
b. Sometimes driftwood may come & wash up on the beach.

Another is that motion away from the viewpoint location is strongly implied by the *go get* construction but not by *go & get* with the result that (25a) is uninterpretable but (26b) is fine.

(25) a. *I hope they don't go come back to the house while we're in bed.
b. I hope they don't go & come back to the house while we're in bed.

A further syntactic distinction between *go get* and *go & get*, not explicitly discussed by Shopen, is that in *go & get* the V1 verb can take various kinds of complement such as particles and prepositional phrases; hence we have contrasts like (26).

(26) a. Go away and read something.
b. What do you want me to go away and read?
c. *Go away read something.
d. *What do you want me to go away read?

(The extraction in (27b) is included to demonstrate that it is *go & get* and not ordinary coordination that is involved.)

Another difference is that to some extent (limited by a difficulty of contextualizing cases where V2 denotes a non-action rather than an action) V2 can be negated in the *go & get* construction. With *go get* this is not the case.

(27) a. I expect you to go and not do anything wrong for a week.
b. What sort of bad stuff do you expect me to go and not do for a week?
c. *I expect you to go not do anything wrong for a week.
d. *What sort of bad stuff do you expect me to go not do for a week?

Carden and Pesetzky claim that there are two *go & get* constructions, one having an 'unexpected event' reading (as in *the creature might go and die on us*) and permitting negation of V2 (*the creature might go and not die*), and the other being the source of the *go get* construction. I think they are wrong, and have designed the examples in (27) to be incompatible with the 'unexpected event' reading (though I agree that such a reading is clearly possible for a *go & get* construction).

## 6. Syntactic analysis of quasi-serialization

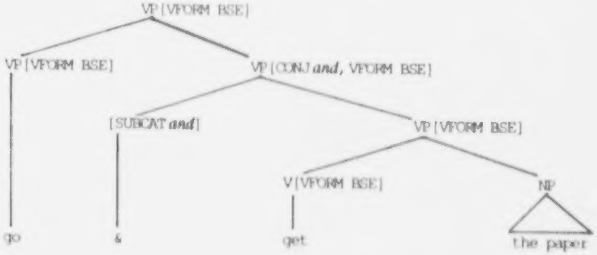
All the most promising descriptions of serial verb constructions treat them as involving multiple heads, in the way that coordination does in analyses like those of Gazdar, Klein, Pullum & Sag (1985), henceforth GKPS, and Sag, Gazdar, Wasow & Weisler (1985). The analysis of Baker (1989), for example, is crucially founded on multiple heads.

I claim that the English quasi-serial constructions treated in this paper should be analyzed similarly (which is one reason for suspecting that the conceptual distance from serialization and quasi-serialization is not great). For the *go & get* construction, for example, I believe the analysis presented in GKPS (175–6) is essentially correct. The key immediate dominance rule is given in GKPS in this form:

(28) VP → H[48], H[CONJ *and*]

The first H bears a feature value [SUBCAT 48] (abbreviated as '[48]'), and thus must be [BAR 0] by virtue of a Feature Cooccurrence Restriction (FCR) requiring subcategorization features to occur only on zero-bar-level categories. The second H bears no SUBCAT or BAR specification, hence by the Head Feature Convention (HFC) gets the same value for BAR as the mother category, VP, namely [BAR 2], and also the same value for all other head features — for example, for features like VFORM which determine the paradigmatic form of the verb. The second H bears the specification [CONJ *and*], so it will expand as an instance of *and* plus an H, which again will inherit all its features via the HFC. The result is that we get structures like (29).

(29)



There is a change that I think needs to be made in the GKPS account of English grammar, for independent reasons. It concerns verb phrases. In GKPS, the abbreviatory label 'VP' stands for $V^2$[−SUBJ] (or more fully, {⟨V,+⟩, ⟨N,−⟩, ⟨BAR,2⟩, ⟨SUBJ,−⟩}), where SUBJ is a feature for distinguishing S (which is [+SUBJ]) from VPs (which are [−SUBJ]). GKPS makes no use of the logically definable category V[BAR 1,−SUBJ]. No topic treated in the book motivates a distinction between $V^2$ and $V^1$, so verbs are introduced directly under $V^2$ nodes. But I think it is clear that there are reasons for distinguishing $V^2$ from $V^1$ — reasons over and above the obvious argument from symmetry with other categories like AP, PP, and particularly NP, all of which are analyzed as $X^2$ categories dominating $X^1$ categories.

One argument turns on the distinction between gap-containing 'purpose clauses' and 'rationale clauses' (cf. Faraci 1974, Wallace 1986): (30a) is grammatical (even on the reading where the *annoy* clause modifies the matrix clause), while (30b) is not.

(30) a. I bought you a pornographic book$_i$ [to read __$_i$] to annoy the bishop.
b. *I bought you a pornographic book$_i$ to annoy the bishop [to read __$_i$]

These facts are nicely accounted for if the gap-containing purpose clause *to read* __ is in $V^1$ and the rationale clause, *to annoy the bishop*, is not (it might be a daughter of $V^2$, or adjoined to $V^1$ or $V^2$).

Another argument can be made on the basis of the placement of the negation particle *not*. The syntax of negation is not treated in GKPS, but had it been,, the conclusion might have been reached that the negative particle would be best located in a 'VP specifier' position, contained in $V^2$ but not in $V^1$. Analyzing *not* (non-crucially) as the sole member of the category A[+ADV, AFORM *not*], and abbreviating $A^2$[+ADV] as 'Adv$^2$]', we posit the following rule to introduce the class of adverbs in question:

(31) $V^2 \rightarrow (\mathrm{Adv}^2[\textit{not}]),\ H^1$

Adv$^2$ is expanded in the obvious way:

(32) $\mathrm{Adv}^2 \rightarrow (\mathrm{Adv}^2),\ H^1$

(I am leaving open the possibility that the adverb *not* itself sometimes takes specifiers and complements, for example, ***absolutely not*** or *not on your life* might be constituents of the category $A^2$[+ADV, AFORM *not*].)

Given the introduction of the $V^1$ category, the verb phrase rules of GKPS will now be restated as $V^1$ rules rather than $V^2$ rules, thus:

(33) $V^1 \rightarrow H[1]$
$V^1 \rightarrow H[2],\ NP$
$V^1 \rightarrow H[3],\ NP,\ PP[\textit{to}]$
etc.

The GKPS rule for subcategory 48 verbs, quoted in (28) above, emerges in this recasting as (34):

(34) $V^1 \rightarrow H[48],\ H^2[\mathrm{CONJ}\ \textit{and}]$

The *try & get* construction can be analyzed in an almost identical way:[11]

(35) $V^1 \rightarrow H[49], H^2[\text{CONJ } \textit{and}]$

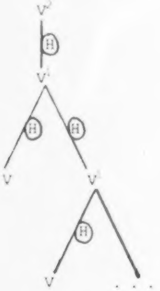
Only the SUBCAT value differentiates this rule from the last. The two are identical in defining both the SUBCAT-bearing lexical head and the 'complement' VP as heads for the purposes of the HFC. The reason I assume it is necessary to separate *go & get* from *try & get* syntactically is because the classes of triggering verbs are distinct and the latter but not the former construction is associated with an inflection condition. For now, the distinct SUBCAT values will suffice as a reminder of this difference, since I do not want to defend any formal way of representing the inflection condition. Notice one thing, however: the inflection condition completely wipes out any clear indications of the effects of the HFC in the *try & get* construction. Because all cases in which inflectional effects would be noted are ungrammatical, all cases in which one would be able to see evidence of the HFC's effects are ungrammatical.

I claim that the *go get* construction is parallel to *try & get* in that it also involves dual heads, but there is a difference between the two: *go get* involves a [BAR 1] head, not a [BAR 2] head. The rule is (36).

(36) $V^1 \rightarrow H[50], H^1$

This yields exactly the same structure as the one Baker (1989) proposes for serial verbs. This is shown in (37), with an H marked next to each branch that leads to a head daughter.

(37)



One consequence of the $V + V^2$ analysis of *go & get* and the $V + V^1$ analysis of *go get* is that the already noted contrast regarding negation falls out: (38a) is grammatical but (38b) is not.[12]

(38) a. I expect you go & not do anything wrong for a week.
b. *I expect you go not do anything wrong for a week.

## 7. The nature of the inflection condition

I now return to the inflection condition. In this section I will not be formalizing anything, because the task is much harder than getting the syntax right, and I believe we are a long way away from having a linguistic theory that provides the right machinery for treating this subject.

Some things can be said straight away about what the inflection condition is not. It is not a restriction to the imperative (Seuren 1990: 5), and it is not a restriction to 'imperatives and sentences with lexical modals' (Baker 1989: 519, n. 3). It is more complicated than that. Rendering its statement more precise involves working with data like the following, where % prefixes are used throughout as a reminder that judgments across the population of native speakers of colloquial American English are in fact highly dialect-sensitive.

(39) a. %He has gone get the book.
b. %He has gone got the book.
c. %He has come get the book.
d. %He has come got the book.

Carden & Pesetzky take examples like (39c) to be ungrammatical, though they do report speakers who find them somewhat better than (39a). (Incidentally, they also correctly note an experimental difficulty in doing informant work on this constructions; for example, they report speakers who appear accept examples like (39b), but when asked to repeat them are found to be inserting a much reduced '&' into the utterance, and thus must be taken to be giving judgments on the wrong construction.)

The difference between (39a) and (39c) is that the past participle of *come* happens to be identical to its base form (this is not true of *go*). Assuming that the right forulation of the inflection condition says simply that the verbs involved must not bear an affix, they conclude that there must be a morphological difference between past participle *come* and present tense *come*: since *Every day I come visit you* is grammatical, present tense *come* must have no affix at all; but since (39c) is ungrammatical, past participle *come* must count as bearing an affix: presumably it has the form $[_V [_V \textit{come}] \varnothing]$.

Three points are missed by this proposal. The first was pointed out to Carden & Pesetzky by Donca Steriade, and they note it in a footnote (91, n. 5): the distinction between the two cases could well be the distinction between systematic and accidental identity to the base form. a general morphological rule of the language stipulates that non-3rd-singular present tense forms have no overt affix, while only an accident of irregular morphology gives the past participiple of *come* its base-like shape. (To put this another way, infinitely many potential verbs have zero-inflected present tense forms, for the usual generalization applies to newly coined verbs; but only a finite, closed, and very small set of items has the pattern exhibited by *come*.) Carden & Pesetzky acknowledge: 'If such a distinction is needed independently, our argument for an unmarked present is greatly weakened.' Since they wrote this, evidence has emerged that very clearly shows an independent need for the distinction: Pullum & Zwicky (1986) shows that it is critical to an understanding of the phenomenon of phonological resolution of syntactic feature conflict.

The second thing that Carden & Pesetzky fail to notice is that they have not allowed for the possibility that the ungrammaticality of (39c) is due to the form of the V2 rather than the V1. Suppose the *go get* construction requires not only that V1 lack overt inflection, but also two other things: that V2 should be in the same form of the paradigm as V1 (call this parallelism), and that V2 should also lack overt inflection (call this nakedness). This would yield a catch-22 for strings like (39c) and (39d): the former meets nakedness but fails parallelism, while the latter has the reverse problem.

There is a class of data crucially relevant to this but overlooked by Carden & Pesetzky and by all other investigators so far. English has about 25 verbs whose past participle is accidentally identical to the base form:

(40) bet, bid, burst, cast, come, cost, cut, fit, hit, hurt, let, put, quit, rid, run, set, shed, shut, slit, spit, split, spread, thrust, wed, wet.

Using any one of these as V2, one can set up examples in which both the parallelism and nakedness conditions are met. A relevant case is (41).

(41) %He has come put his cards on the table.

It was a desire to know more about speakers' judgments on such examples that led Arnold Zwicky and me to undertake a survey that revealed an alarming fact, the third thing that Carden & Pesetzky (and all previous investigators) had overlooked: my ad hoc locution 'the inflection condition' has no unique referent. The inflection condition is not by any means the same for all speakers — not even for speakers who accept *Go get the paper* and reject **He goes get(s) the paper*.

Zwicky and I administered to a population of 82 English speakers (53 by electronic mail and 29 in a sociolinguistic field methods class administered by John Rickford). An effort was made to discourage linguists who had worked on or considered the relevant constructions from participating. The sentences we asked people to judge were these.

(42) a. Come sing a few songs with me.
b. I often go am helpful to Tracy.
c. Has Sandy ever come hit you up for money before?
d. Whenever the floor's been hot, the dog has run put his paw in cold water.
e. Doesn't Terry go pick up the laundry on Tuesdays?
f. Pat has come visit us every day this month.
g. I usually try and be nice to them.
h. While you've been away, I've come put water on your plants every day.
i. Lee often goes and is nice to them.
j. Every day you come bore me with your stories.
k. Robin came sang a few songs with me.
l. We sometimes go be sweet to them for a few hours.
m. Tell Johnny to go save his tortoise.
n. While you've been away, I have come swept your porch every day.
o. Chris usually tries and be nice to them.
p. They have come visited us every day this month.
q. Marcia might go check on her mail.
r. Every day Ashley comes bores me with silly stories.
s. While you've been away, I have come taken your dog for a walk every day.
t. Can Dana go see who's at the door?

We requested a ranking on a 4-point scale. Judgments of 1 or 2 were treated as positive, those of 3 or 4 as negative; in our experience, most people balk at providing only yes/no judgments — even in this study we got some 1.5s and 3.5s, though fortunately no 2.5s — so that they must be provided with a finer classification, even if the distinction between 1 and 2, or between 3 and 4, will play no role in analysis. No sets of judgments were discarded, though some were distinctly peculiar. The preamble explaining the instructions, as sent out from Zwicky's computer account at Stanford, read as follows:

> Geoff Pullum and I are soliciting judgments on the set of examples below, involving English constructions with GO/COME/RUN VERB, GO/COME/RUN AND VERB, and TRY AND VERB. If you are a native speaker of American English who hasn't already thought about the analysis of these constructions, we could use a couple of minutes of your time. What we need, for each of these examples, is a judgment on a 4-point scale (1 is best), roughly as follows:
>
> 1: I could well say this in natural, informal speech.
> 2: I'm not sure I could say this.
> 3: I probably wouldn't say this, but I might accept it if someone else did.
> 4: I couldn't possibly say it, and it doesn't even sound like something an English speaker could say.
>
> All you need to send us is the twenty examples, or just their identifying letters (a thru t), each with a 1, 2, 3, or 4 added to indicate your judgment.
>
> Try to make your judgments quickly and without a lot of reflection. In particular, try not to compare the example you're looking at with others in this set or with others you might think of. Don't think about what you OUGHT to say, or about whether you could EXPLAIN your judgments; just treat each example on its own.
>
> Be sure that you're judging the example here, and not some similar example: TRY AND VERB might be different from TRY TO VERB; GO AND VERB might be different from GO TO VERB and GO VERB; and so on. Please don't change things to see if you can make the examples better; there are no typos in the list; some of them are SUPPOSED to be awful.

The results revealed a network of distinct dialects that was much more complicated than we ever thought we would find, but which still had some clear structure.

The logical structure of the set of dialects can best be set out by working through a set of choices (call them parameter settings if you wish) that determine the grammaticality judgments of a particular dialect's version of the *go get* construction.

The pre-screening choice is of course to decide whether an inflection condition is present at all. Visser (1969: 1396) reports that 'Combinations with a finite form of *go* (e.g. 'They went look for him') are still met with in American English.' I have never encountered an utterance of this type, with visibly inflected V1, but Zwicky and I did find a few respondents who accepted virtually everything we presented to them, and thus represent evidence of dialects of the type Visser attests.

For those who reject cases like *They went look for him* but accept *Go look for him*, the first decision to be made is whether the first verb actually has to *be* in the base form or whether merely looking like the base form (i.e. having no overt inflectional affixes) will suffice.

Zwicky and I found that subjects with an inflection condition of some kind split about eight to two in favor of saying that looking like the base form was adequate. This is indicated by an eighty percent acceptance rate on utterances like (42j),*Every day you come bore me with your stories*, where the V1 is finite but in the non-3rd-singular present tense so that no affix is visible. The less than twenty percent of speakers who reject such sentences apparently require V1 to be in the base form, not just resemble it. They define a hyper-restrictive dialect, whose speakers I will refer to as the CONSERVATIVES, in which only imperatives like *Go get the paper* and infinitives as in *He told me to go get the paper* are grammatical.

Those speakers who are content if the first verb simply looks like a base form speak one of the dialects I will refer to as the LIBERAL dialects. For them, there is another choice to be made. Does accidental identity to the base suffice, or must it be systematic identity as defined generally by the paradigms for verbs in the language?

We take the identity of past participles to base forms found with the short list of verbs in (40) to be accidental. Some end in a nasal and used to have *-en* suffix that was lost through sound change; others end in a coronal stop and used to have a *-ed* suffix that was similarly lost; the list is not quite the same for all speakers. Systematic identity, however, is found in the case of plural and first and second person verb forms in the present tense: these are always the same as the base form, by the general rules for verb form shapes that apply to all verbs except *be* and the modals. Given the fact that new verbs are coined all the time, all speakers are prepared to accept for (in principle) infinitely many verbs the rule that the first person singular present tense of verbs other than the copula is suffixless; the verbs in (40), by contrast, constitute a list of two dozen special cases to which no additions are ever made.

Zwicky and I found that subjects again split about eight to two in favor of the more permissive alternative: only a little more than twenty percent of subjects, speakers of what I will call the SYSTEMATIC LIBERAL dialects, had judgments showing that systematic identity between the V1 form and the base form for that verb was called for. Systematic liberal speakers are happy with *Every morning I go get the paper*, because 1st person singular present tense verb forms are systematically identical to base forms; but they reject *Every day I have come put water on your plants*, because although V1 is identical in shape to the base form of *come*, it is only accidentally so, *come* being a verb that just happens to have an irregular past participle that looks and sounds like its base form.

The remaining eighty percent of the liberal speakers, who are happy with any V1 that looks and sounds like the base form, whether the resemblance is for systematic reasons or is just accidental, I will refer to as the ACCIDENTAL LIBERALS. They have yet more choices to make, because they have a conflict to resolve. The question is what condition they will impose on V2. Given that they accept some examples in which V1 is not a base form (though it looks and sounds like one), they face potential conflicts that other dialects do not face. In cases where V1 is a past participle, they have to decide what to do if V2 is a verb whose past participle does not look like its base form.

One possibility would be to exclude from the language any example in which there is a conflict between shape identity and feature identity, and I will call speakers who take this option the EXCLUSIONIST ACCIDENTAL LIBERALS. Another would be to include in the set of grammatical strings all the examples in which there is a conflict between shape identity and feature identity, and I will call speakers who take this option the INCLUSIONIST ACCIDENTAL LIBERALS. The remaining possibility is to decide on a principled way to make the choice of which forms to accept, and the speakers who take this option I will call the SELECTIONIST ACCIDENTAL LIBERALS.

The community of accidental liberals splits into exclusionists, inclusionists, and selectionists in proportions that do not differ very greatly, as if any strategy was as plausible as any other, and speakers simply picked an dialect at random. About 27% of our accidental liberals turned out to be exclusionists, rejecting both *He has come visit me* and *He has come beaten me*; about 42% are inclusionists, and accept both these types of example; and about 31% are selectionists. The differences in size of these three groups are not pronounced; each is very roughly (±9%) a third of the class of accidental liberals.

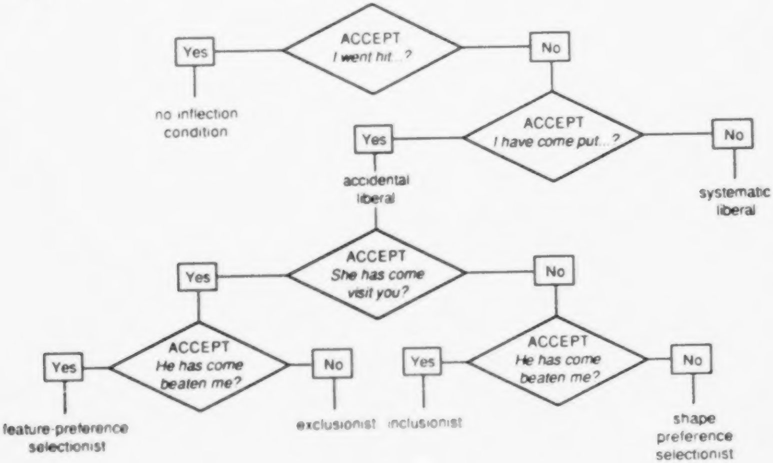
One further dichotomy remains to generate the full array of dialects with respect to the *go get* construction. The selectionists have to decide whether V2 should always look like V1 (but not necessarily have the same syntactic feature specifications), or whether V2 should always bear the same syntactic feature specifications as V1 (but not necessarily resemble V2's base form). I will call the speakers who want V2 always to share with V1 the property of looking like the base form, regardless of syntactic feature composition, the SHAPE-PREFERENCE SELECTIONIST ACCIDENTAL LIBERALS. Shape-preference selectionists accept as grammatical only the intersection of the examples accepted by the shape-preference and feature-preference speakers. I will call the remaining speakers, those who want V2 always to have the same feature specifications as V1, regardless of what affixes are involved, the FEATURE-PREFERENCE SELECTIONIST ACCIDENTAL LIBERALS. Feature-preference selectionists accept as grammatical the union of the examples accepted by the shape-preference and feature-preference speakers.

Zwicky and I found that selectionists split 5 to 3 in favor of shape as the crucial determinant: 62.5% of the selectionists went for shape preference, accepting *She has come visit you* but rejecting *He has come beaten me*, and 37.5% opted for feature preference, making the opposite judgments.

Our data show a higher incidence of variability than we expected, and more variation than is evidenced in one small item of comparable data reported by Carden & Pesetzky (1978: 91, n. 6): Guy Carden and Chris Clifford interviewed 27 speakers regarding their judgments on *John has come live with us*, which is a crucial diagnostic for distinguishing inclusionists and shape-preference selectionists among accidental liberals, and found 3 accepting it, one calling it possibly O.K., and one calling it possibly ungrammatical. In our survey, the inclusionists and shape-preference selectionists together comprise nearly 39% of the total, so at least 10 out of our 27 speakers had judgments suggesting they would accept this example.)[13]

The logical structure of the set of dialects involved here is rather complex. To clarify it, and to permit the reader to conduct a self-survey to place his or her own dialect, I present in the following diagram a decision tree for the six different dialects defined above.

(43)


ACCEPT
I went hit...?
Yes
No
no inflection condition
ACCEPT
I have come put...?
Yes
No
accidental liberal
systematic liberal
ACCEPT
She has come visit you?
Yes
No
ACCEPT
He has come beaten me?
Yes
No
feature-preference selectionist
exclusionist
ACCEPT
He has come beaten me?
Yes
No
inclusionist
shape preference selectionist

## 8. Conclusions

I have not attempted to provide in this paper any full analysis of the nest of interesting problems in semantics, syntax, morphology, and phonology that have been discussed. In particular, I am not yet ready to provide a formal account of the phonological, morphological, and syntactic aspects of the inflection condition. But I hope I have made it clearer what needs to be accomplished by any full description of these constructions, and I hope I have laid to rest various errors found in the previous literature.

As for the terminological question of whether we 'really' have serial verbs here, the constructions I have examined appear to be governed by particular lexical subclasses of verbs, and according to Seuren (1990), this immediately entails that serialization is not present: he maintains that 'true' serial verbs involve ***ungoverned*** occurrence of paratactically juxtaposed 'pseudo-complement' VPs. That is, there must be no restriction to specific verbs in the V1 position. But in fact there are numerous mentions of such V1 constraints in the literature that uses the term 'serial verbs.'

(i) According to (Williamson 1965), Ịjọ (Kwa, Nigeria) has several serial verb constructions limited to a short list of specific V1 or V2 verbs.

(ii) According to (Foley and Olson 1985: 41), Kaititj (Arandic, central Australia) has serial verbs only with 'come' or 'go' in the V1 (superordinate) position.

(iii) According to (Foley and Olson 1985: 41), Yimas (Sepik, Papua New Guinea) 'serializes most frequently with the basic motion verbs *come* and *go*'; although other verbs can enter into the serial verb construction, '*come* and *go* are favored and formally distinguished by suppletion.'

(iv) According to (Foley and Olson 1985: 48), Tok Pisin (English-based creole, Papua New Guinea) also has serial verbs only with 'come' or 'go' in the V1 position.

(v) According to (Foley and Olson 1985: 49), Dani (Papuan, Irian Jaya) has obligatory periphrastic conjugation with serial verbs for nearly all transitive verbs, and the only V1 (superordinate) verbs that can be used are those meaning 'put', 'see', and 'give'.

(vi) According to (Déchaine 1989: 239), Haitian (French-based creole, Haiti) has two kinds of serial verb construction, in one of which V1 is restricted to *prã* 'take'. In the other, V2 must be drawn from the closed list 'give', 'vini', 'go', 'arrive', and 'go out'.

These restrictions are found in languages that are taken to represent clear cases of serialization. It seems to me that it would be odd to deny the term either to them or to the similar phenomena in English, but some authors think otherwise.

Even those authors, however, will not deny that the *go get*, *go & get*, and *try & get* constructions show enough interesting similarities to the paradigm cases of serial verbs in (e. g.) West African languages to be of interest to specialists working on those languages. Even if we accept a restrictive characterization of serialization (e. g., following Baker, that it must involve semantic object sharing), it is easy to see that the typological distance between English and serializing languages is not too great. Foley & Olson (1985: 51) suggest that there are four typological properties that have a non-accidental association with serialization:

1. phonemic tone or complex vowel systems
2. monosyllabicity
3. isolating morphological type
4. verb medial word order

English, with its fairly complicated vowel and diphthong system, its core inventory of mostly monosyllabic Anglo-Saxon roots, its almost complete lack of inflectional morphology, and its strict SVO word order, comes closer to meeting these conditions than most Indo-European languages do. And as mentioned earlier (see footnote 8), the data discussed by Lakoff (1986) may indicate that (in particular) coordinate consecutivization is more productively established in English syntax than most accounts (including mine) have yet made clear.

## *Notes*

1. My introduction to this construction was provided by Zwicky (1969). Arnold Zwicky and I have attempted to improve our understanding of it at various times since 1973, when we began collaborating on topics in the borderland of syntax and phonology. The research reported here owes a great deal to him, but this presentation is mine, and lacks the improvements that would doubtless have resulted if we had been able to develop it jointly. Zwicky and other participants at the Ohio State Miniconference on Serial Verbs in May 1990 made comments on my presentation that permitted me to improve this paper, and John Moore read the paper in draft and gave me some helpful written comments.

2. Example (1d) may not be quite as familiar a song title as the others, but some readers may recall it was the company song of the Sirius Cybernetics Company Complaints Division in the original radio version of Douglas Adams' series *The Hitchhiker's Guide to the Galaxy* (it is in the radio script but not in the novel).

3. I ignore all similar citations in which a comma follows the *go* or *come*, of course, since these cannot be assumed to show the cohesion that characterizes the construction I am discussing here — though it would be reasonable to conjecture that the historical origin of *Come kiss me* might be a sequence of imperatives (*Come! Kiss me!*), and that the non-imperative analogs might have been a later outgrowth.

4. It is worth noting here that I take the differentiation to be in terms of hierarchy or dependency, not linear precedence; the V1 is the apparently superordinate verb, and the V2 is apparently in some kind of complement VP. If there were a typologically straightforward SOV language that had a parallel construction, I would still call the superordinate verb V1, and would expect — other things being equal — to find that the V2 followed its subcategorized complements and that the V1 followed the V2.

5. These may be regarded as grammatical under an interpretation where the *try* clause is independent and elliptical, with *try* meaning 'attempt unspecified things'; but under that interpretation the phrase *try & get* loses the equivalence to *try to get* that it has in the *try & get* construction.

6. Carden & Pesetzky do mention the Zwicky and Shopen papers in three footnotes added after their paper was written; but their text has no references at all, and it is clear from the analysis they adopt that they paid virtually no attention to the conclusions reached by Zwicky or Shopen.

7. Stahlke gives examples of an additional verb that can occur as V1 in the *go & get* construction: *take*, as in *The bottle took and broke*. Personally, I have never encountered this use of *take*; Visser (1969: 1399n) notes the usage, and describes it as 'Anglo-Irish.'

8. For an apparently far more serious challenge to the Coordinate Structure Constraint (CSC), see Lakoff (1986). I cannot deal with Lakoff's arguments in detail here, but I will say that I believe the phenomena he discusses may well fall into place much better when re-examined in the context of a theory of coordinate consecutivization. English apparently permits sequences of conjoined VPs to be

reinterpreted quite freely as cases of coordinate consecutivization rather than logical conjunction. The extractions Lakoff cites from what he takes to be coordinate structures are, I propose, more closely related to Fe'fe'-style serial verb constructions than to true coordination. *All* Lakoff's crucial examples involve semantically cohesive chains of coordinated VPs, with fairly subtle meaning restrictions. Extraction from conjoined sentences or conjoined NPs, on the other hand, always leads to ungrammaticality (and Lakoff offers only a vague and unconvincing semantically-based alternative to the CSC to take account of that fact). In other words, whereas Lakoff argues that we cannot understand the CSC in syntactic terms, I am suggesting that we understand the CSC fairly well, but that we do not understand coordinate consecutivization well enough.

9. Visser (1969) states that *go & get*, but not *go get*, 'already occurs in (late) Old English, which seems to indicate that 'go see' developed from 'go and see' by elision of the conjunction' (p. 1399). This does not seem particularly plausible to me, since *go get* did not take over from *go & get* but rather proceeded to coexist with it for a clear six or seven centuries. But this is in any case not relevant to my claim in the text, which is about the synchronic analysis of *go get*.

10. I think this argument is worth mentioning, but let me also mention that I do not see an easy way to describe the facts if they are as Shopen asserts. Given the analysis of the *go & get* construction I will defend below, the V2 in a *go & get* construction is just an ordinary verb phrase, and I do not see what could stop it from being itself an instance of the *go & get* construction, which is all it would take for (22b) to be generated. The facts thus have an uneasy status: they seem to provide an argument against relating the two constructions, but they also seem to provide an argument that my analysis does not tell the whole story.

11. Coincidentally but conveniently, 48 happens to be the last SUBCAT value used in GKPS, so we can continue from 49 without clashing with any of the SUBCAT numbers used earlier in the book.

12. There other ways in which the uninterruptability of the *go get* sequence might be made a consequence of the analysis. One would be to impose the requirement that the *go get* sequence constitute a morphological word, perhaps using an autolexical theory of the kind Jerrold Sadock has advocated. At present, I am not aware of data that would decide between these approaches.

13. One example from the *OED* indicates that dialects accepting sequences like *come live* existed over three centuries ago: from William Browne's 1647 translation *Le Roy's (M.) History of Polexander*, the *OED* cites a sentence mentioning '. . . Spaniards, which seem'd to have come offer themselves to your sword.' The occurrence of *offer* rather than *offered* seems to indicate a seventeenth century inclusionist or shape preference dialect.

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# Serial vs. Consecutive Verbs in Walapai

James E. Redden
Southern Illinois University

Serial verbs are rare in North American Indian languages. Apparently, serial verbs only occur in the Yuman family of languages, located in Arizona, California, and Mexico. Walapai or Hulapai is an Upland Yuman language located on the south side of the horseshoe of the Grand Canyon in Northwest Arizona.

Walapai often has several verbs in a sentence which have the same subject. In many cases, these verbs look very much like the serial verb constructions that are so well known from West Africa; but in others, they seem just to be consecutive actions or events. One must ask whether there is any real difference between serial verbs and consecutive verbs in Walapai.

The best known serial verbs in Walapai are the comparatives and superlatives. However, not all comparatives and superlatives in Walapai are serial verbs; they may be compound verb stems. (In the analyses below, "SS" means "same subject as following verb", "DS" means "different subject from following verb", and "TNS." means a kind of "universal aorist that may refer to past, present or future".) ("SUB." refers to "subordination". See note on last page.)

| | |
|---|---|
| há-č | hmí-k-yu # |
| 3/NOM. | be=tall/SS/be |

'He is tall.'

| | | | |
|---|---|---|---|
| há-č | hmí-k | ɲá | ɲi-kwíl-k-we # |
| 3/NOM. | be=tall/SS | 1 | SUB./pass/SS/do |

'He is taller than I am.'

| | | |
|---|---|---|
| hmí-k | pấy | kwíl-k-we # |
| be=tall/SS | all | pass/SS/do |

'He is the tallest (of all).'

| | | | | | |
|---|---|---|---|---|---|
| má-č | vikák | ma-homí-k | ɲá | ím-kwíl-a | mi-taóp # |
| 2/NOM. | not=at=all | 2/be=tall/SS | 1 | 2/pass/TNS. | 2/be,do=not |

'You are not as tall as I am.' (or) 'You are not taller than I am.'

| | | | | |
|---|---|---|---|---|
| má-č | yàmkpèr-a | mi-táv-k | ɲá | mi-kwíl-k-a # |
| 2/NOM. | be=intoxicated/TNS. | 2/be=much,very/SS | 1 | 2/pass/SS/TNS. |

'You are a lot drunker than I am."

These comparatives and superlatives have a stative verb followed by a verb meaning '(sur)pass', or 'exceed'. Only the second verb has an object. Thus, these look exactly like the so-called classical serial verbs of West Africa. However, these conditions do not apply to all serial verbs in Walapai.

ɲá-č   a-hmí-táv-yu #
1/NOM. 1/be=tall/be=very,much/be

'I am rather tall.'  (or)  'I am taller than most/all.'

ɲá-č   hmí-táv-k   pà ɲ-kwíl-we #
1/NOM. be=tall/be=very,much/SS 3 SUB./pass/do

'I am much taller than they are.'  (or)  'I am the tallest by far.'

/táv/, 'be/do very much so', is a very common verb, both as an independent verb and as one element of a compound stem. It occurs much more frequently than /kwíl/, 'surpass', 'exceed'. /táv/ also frequently compounds with noun stems. However, since any stem can occur as either a noun or a verb, stems must be seen in context before the word class can be determined.

When Joseph Greenberg was giving the first public presentation of his new classification of American Indian languages at the 1978 Mid-America Linguistics Conference at the University of Oklahoma, Norman, he made an aside remark that never appeared in print that the only serial verbs in North American Indian languages, so far as he knew, were the comparative constructions in Yuman languages. However, Walapai has many other serial verb constructions. Datives are marked with the second verb /é/, 'give', again very similar to dative constructions in West Africa, e.g. Twi or Akan /má/, 'give', which is used as the second verb in a series to mark datives.

qőθ   ɲ-ma-vilwí-v-a-k   kwáθtí-l   mí-čá-k   mí-é #
coffee SUB./2/make,be=half/STATE/TNS./SS dish,cup/in 2/pour/SS 2-give

'Give me a half cup of coffee.'

ɲá-č   ɲà-lwá-hà   kándì-mà-v-yà-m   kwé   è-kakáv-ik
1/NOM. 1/wife/that candy/eat/STATE/this/DS thing 1/buy/SS

è-é-hì-k-we #
1/give/FUT./SS/do

'I am going to buy my wife a present for Christmas.'

máɲ-qéč   wàksí ɲ-máy   é-m   θí-k-we #
youth/small cow SUB./milk give/DS drink/SS/do

'I am giving the baby milk to drink.'

ɲà-č   wàksí ɲ-máy-a   ì-yó-k   ɲà-čít-a   ḕ-é-k-we #
1/NOM. cow SUB./milk/DEF. 1/take/SS 1/mother/DEF. 1/give/SS/do

'I took my mother the/some milk.'

In the first sentence just above, there are three verbs in the series. It is a bit difficult to determine which object is the object of which verb. In fact, it is also a bit difficult to say whether there is a sequence of actions between the first two verbs or whether they are simultaneous. It would seem that the 'pouring' and the 'filling half full' ought to be done at exactly the same time. This type of close association or inseparability is a common feature of many serial verbs. Likewise, /é/, 'give', expresses a dative or indirect-object relationship. The only overt mark of the first-person is the /ɲ-/ prefix on /vilwí/, which means 'be or do half or in the middle'. (This is only one of the uses of the subordinating /ɲ-/. Here it means 'second-person subject and first-person object'.) In the second sentence above, it would seem that there is no need for the verb /é/, 'give', from an English point of view; but /é/ is required in Walapai. /kakáv/, 'buy', has two expressed objects. No doubt /ē/ also has two objects, since third-person pronoun objects are usually zero. If the situation is not clear, /pá/, 'person', 'people', will be used as a third-person object.

In the third sentence above, /máɲqéč/, 'baby', is not the subject. The /č/ is part of the stem, and not a nominative case suffix. Since /máɲqéč/ has a zero case suffix, it is an object. Likewise, since /é/ has the ablative-different-subject suffix, 'I' cannot be the subject of /é/. No doubt one occurrence of /máɲqéč/ has been deleted, just as one occurrence of 'baby' has been deleted in the English translation. Likewise, one could ask why the meaning of the next sentence is not 'I took some milk and gave it to my mother.' It could be, but 'I took my mother some milk.' would also require /é/. This raises the question of whether serial verbs in Walapai are any different from consecutive verbs, i.e. verbs that follow in chronological order. Since all verbs and all clauses must occur in chronological order, the answer could be 'no'. However, a second or serial verb such as /é/ is required in many constructions where English would not require a second verb. See just below for more examples and discussion of this point.

| | | | | |
|---|---|---|---|---|
| ɲâ-č | kwá-h | yó-k | wàksí | î-či-kyát-ak-a # |
| 1/NOM. | knife/that | take,get/SS | cow,beef | 1/CAUS./cut/SS/TNS. |

'I got a knife to cut the meat (with).'

| | | | |
|---|---|---|---|
| kwá | yó-k | wàksí | či-kyát-k-we # |
| knife | take,get/SS | cow,beef | CAUS./cut/SS/do |

'He got the knife and cut the meat.'

The first sentence above shows purpose. It says nothing about whether any meat has been cut. Thus, it is marked by the aorist /-a/ suffix on the verb, which has no real time referent. The sentence could just as well have been translated, 'He has gotten a knife to cut meat (with).' The second sentence with /-we/, 'do', suffixed is as close as Walapai has to a transitive mark on the verb. (The Walapai verb system is in flux. It is changing over from a system in which /-we/, 'do', marked 'current event or happening' and /-yu/, 'be', marked 'habitual or often-occurring event or happening' to a system in which the younger Walapai use /-we/ to mark transitive and /-yu/ to mark intransitive. The two sentences above are from an elderly speaker.) The /-we/ suffix indicates that the speaker knows that the event took place; and, therefore, he did cut the meat with a knife. Thus, the second sentence is two consecutive verbs and actions; but the first sentence is two serial verbs. Could the second sentence mean, 'He got the knife to cut the meat (with).'? It could, but the emphasis would be on the getting of the knife; whereas, the first sentence focuses on the purpose, i.e. getting and using the knife for the purpose of the knife for cutting meat.

kák manát-a        má-k   è-év-a-taóp-m-iű-č-yu #
not prickly=pear/DEF. eat/SS 1-hear,perceive/TNS./be,do=not/HAB./
                                 PL.=ACTION/be

'I have never eaten prickly pear fruit before.'

ɲá-č   vikak     kwèčatí-ya       ű-k    év-a-taóp #
1/NOM. not=at=all ghost,spirit/DEF. see/SS hear,perceive/TNS./
                                 be,do not

'I have never seen a ghost.'

The verb /év/, 'hear', 'feel', 'perceive', 'experience', is used as the second of two serial verbs express feelings or experience, especially in the negative. In the first sentence, the speaker has never had the experience of eating prickly pear fruit before and has either just eaten his first piece or is about to eat his first piece. Since the last verb in the second sentence has no indicative suffix, it is a general statement about reality. One is stating that since he has never seen a ghost, he doubts the reality of their existence. In both cases, however, the second serial verb is required.

/év/ can also mean, 'listen (to)', 'obey', and can express an opinion such as 'perceive', 'find', 'judge'.

ɲã móɲà-č   à-smá-taóp-t-m            kwè  kanáv-m év-yu #
1  FaMo/NOM. 1/sleep/be,do not/IMPERF./DS thing tell/DS hear/be

'Grandmother told me a story before I went to sleep.'

páp-a      sít-θ-im      kák té-m        è-év-a-taóp #
potato/DEF. be=one/only/DS not be,do=much/DS 1-find,judge/TNS./
                                 be,do=not

'One potato is not enough (for me).'

ɲá-č  qóm   θà-č     pá-k-a-k
1/NOM. coffee that/NOM. come,boil=up,out/at,near/TNS./SS

sáh-a-m           è-év-ik-yu #
give=off=odor/TNS./DS 1/perceive/SS/be

'I can smell the coffee boiling.'

kwè  à-hwí-k          è-év-a-m          sáh-a-k-i #
thing 1/perceive=odor 1/perceive/TNS./DS give=off=odor/TNS./SS/say

'I smell something rotten.'

Since clauses must come in chronological order in Walapai, the only way to express "before" is to have a negative clause in the imperfect which describes what happens later. The first sentence does not mean, 'I did not go to sleep, and grandmother told me a story.' Perhaps a better literal translation would be, 'Grandmother, while I was not sleeping, told me a story.' The meaning is that I did go to sleep, but after grandmother told me a story.

The second sentence above means something like, 'Based on my previous experience, I judge that just one potato is not sufficient for me.' Again, since there is no indicative suffix on the last verb, this is a statement of general truth and not a statement of something that is or was happening. It is a statement of judgment based on perception.

The third sentence above is something like, 'I perceive that the coffee is boiling and giving off an odor or smell.' Notice that the "subordinate" clause is embedded in the "main" clause. Because of the necessity of the chronological order of verbs in Walapai, the verbs expressing the boiling and giving off an odor have to precede the verb of perception. In the last sentence above, the meaning is something like, 'I am sniffing the air and am perceiving that something is giving off a stink.' /hwí/, 'smell', 'sniff the air', is onomatopoetic. Also, the suffixed auxiliary verb /-i/, 'say', and also 'judge', 'perceive', indicates that the speaker is or has been evaluating the situation and rendering a judgment about what the situation is. Consequently, the sniffing of the air precedes the perception and the evaluation. One could of course say that these events are occurring at the same time. Serial verbs are often used to express things happening at the same time or nearly so.

| | | |
|---|---|---|
| wíhhâkànpáč-a | kowá-m | yám-ay-yu # |
| Flagstaff,Snow=Peak/DEF. | lead,drive/DS | go,leave/FUT./be |

'I am driving to Flagstaff.'

| | | | |
|---|---|---|---|
| hát-a-č | viyám | wé | yám # |
| dog/DEF./NOM. | run | away,off | go,leave |

'The dog ran away.'

The first sentence above could be something like, 'I am going to Flagstaff by driving.' The two actions are simultaneous and thus expressed by serial verbs. In the second sentence, the dog's disappearance was not witnessed by the speaker, and thus no indicative suffix occurs on the verb. The speaker is commenting on the fact that the dog is missing and assumes that it ran off or heard that the dog ran off. Again, two simultaneous actions are expressed by serial verbs.

| | | | | |
|---|---|---|---|---|
| ɲiθá-č | yév-m | yú-sám-ì | yó-v | ɲi-é # |
| 3/NOM. | self/with | eye/cover/INSTRU. | make,do/STATE. | SUB./give |

'He made the glasses for me.'

| | | | | |
|---|---|---|---|---|
| piqí-hà | quptó-h | à-yó-k | pés-a | é-k-we # |
| woman/that | basket-that | 1/take/SS | money/DEF. | give/SS/do |

'I paid the woman for her basket.'

Just what does "simultaneous" mean? Is "benefactive" simultaneous? The /yévm/ in the first sentence above means 'with me in mind', 'according to my specifications'. Thus, the sentence is not merely, 'He made and gave the glasses to me.' But, it is clearly benefactive, i.e. 'He made the glasses according to my needs/specific requirements.' At the same time he made the lenses, he made my prescription.

In the second sentence above, 'I took the woman's basket and gave her the money.', 'her' is a zero object of /é/. This is of course a meaning of the sentence; but because there are three arguments in the predicate, English has to use a preposition like 'for' and Walapai has to use a serial verb like /é/.

| | | |
|---|---|---|
| tiɲúr-a | è-é-m | **sír-a-**k-we # |
| writing | 1/give/DS | read,count/TNS./SS/do |

'I made/had him read the letter.'

| | | | |
|---|---|---|---|
| pés-a | é-m-a-m | ɲiθá-č | wám-k-u-ɲ # |
| money/DEF. | give/ABL./TNS./DS | 3/NOM. | carry,take/SS/be/PERF. |

'I sent him some money.'

The verb /é/, 'give yes/consent/orders' is no doubt the same verb as /é/, 'give'. It often means causative. The first sentence above does not mean just 'I gave him the letter to read.' It means, 'I made/caused him (to) read the letter.' The second sentence above is, 'I gave (him) the money, and he took (it) (to him).', i.e.'I gave someone orders to do something for/on behalf of another.' Thus, in some cases, consecutive verbs look just like serial verbs. However, the meaning of this last sentence is not just two consecutive events. It is clearly causative and benefactive.

| | | | |
|---|---|---|---|
| hmár-a | hwák-a-k | ɲím | pém-k-yu # |
| boy/DEF. | be=two/TNS./SS | then | go,leave=dual/SS/be |

'Two boys were/are going by.'

| | | | |
|---|---|---|---|
| ɲá-č | a-hwák-at-a-k | awá | sít-θ-al |
| 1/NOM. | 1/be=two/IMPERF./TNS./SS | house | be=one/only/DEF./in |

| |
|---|
| í-ɲi-wé-v-ič-ik-yu # |
| 1/SUB./live,dwell/STATE./PL.=AGENT/SS/be |

'We are both living in the same house.'

Partitives are serial verbs also. Numbers are verbs and often are used as the first verb in a serial-verb construction. (Motion verbs usually have a suppletive dual stem, e.g. /yám/, 'go', 'leave', has /pém/ in the dual.) In the second sentence above, /hwák/, 'be two', even takes the imperfect suffix. Probably the best translations of /hwák/ used as a partitive is 'both'.

| | | |
|---|---|---|
| hmál-a | lél | satá-k-we # |
| bag/DEF. | tear,rip | open/SS/do |

'I tore the bag open.'

| | | |
|---|---|---|
| tú | tàrhár-a-k | í-yapá-m-ay-yu # |
| very | work=for=wages/TNS./SS | 1/be=dark,night/HAB./FUT./be |

'I am going to keep working until it gets dark.'

It could be argued that the first sentence above could be, 'I tore the bag

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and opened it.' However, it seems obvious that the tearing and opening were simultaneous, a common meaning of serial-verb constructions. In the second sentence, the use of serial verbs with the future on the second verb is the usual way of expressing 'until'. It is clear that 'I' is the subject of both verbs since /yapá/ has the first-person subject prefix. 'I will be/get darkened.',doesn't mean, 'Night will fall.',in English; but one could use a paraphrase like, 'Night will catch/fall on me.'

kwè θí-č sawâl-k-yu #
thing drink/PL.=ACTION like,love/SS/be

'He likes to drink/drinks a lot.' 'He is a drunk.'

ɲiθá kwê kčí-č-v-i swâl-k-a #
3 thing steal,rob/PL.=ACTION/STATE/say like,love/SS/TNS.

'He has the habit of stealing.' 'He is a thief.'

má-č kwáw ma-sawâl-iŋ-yu #
2/NOM. talk,speak 2/like,love/2=SS/be

'You talk a lot/too much.' 'You have logorrhea.'

Excess habitual activity is expressed by a verb naming the activity and /sawâl/,'like', 'love', 'be excessively habituated to', as the second serial verb. For example, the first sentence above means that the subject is a real, confirmed drunk.(/ŋ/ is a contraction of /mk/.)

miyál má-k čáv-we #
bread eat/SS consume/do

'I ate up the bread.' 'I ate all the bread.'

To express completion like English 'up', /čáv/, 'consume', is used. I have seen /čáv/ only with /má/, 'eat', and /θí/, 'drink', but it may well have wider distribution.

It would seem therefore that in Walapai serial verbs are used to indicate closely related and simultaneous states and activies. In some cases, serial verbs will look very similar to consecutive verbs; however, there is usually a morphological difference between serial and consecutive verbs, and there will be a difference of focus between them.

Walapai is unfortunately a dying language. Since 1959, I have witnessed some rather drastic changes in the structure of Walapai. Formerly, /ɲ-/ as a noun prefix meant 'possessed noun'. It now means 'third-person possessor' on nouns. As a verb prefix, /ɲ-/ indicates a number of sybordinating relationships, such as second-person subject and first-person object. It can also be an adverbial object or temporal marker like 'there' and 'when'. As a particle prefix, /ɲ-/ is an intensive marker like 'this very one'.

# Suffixal Concatenation in the Classical Japanese Predicate: Erstwhile Serial Verbs?

Charles J. Quinn, Jr.
The Ohio State University

The term 'classical Japanese' is more common among philologists and other scholars of the pre-modern Japanese textual tradition than among historical linguists. It refers in a general way to the language found in texts of the Heian period, which extended some four hundred years, from the late eighth century to the late twelfth. The period is named after the emperor's capital city, *Hei-an*, or 'Tranquil Peace' (present-day Kyoto). The city was the center of a courtly society that had recently begun to feel confident of itself, as China's peer when it came to courtly accomplishments, in particular in matters artistic and literary. Most of the examples employed in this paper are from the heart of this period, the tenth, eleventh and twelfth centuries -- times which saw the first flowering of the native poetic and narrative traditions. The language of these years is variously documented, in the form of several imperially commissioned anthologies of poetry and in a number of fictional romances, the longest and most famous of which, 'The Tale of Genji,' runs to six volumes in its modern annotated edition. It also served as the basis of the written or 'literary language,' which was used widely until the end of World War II.

The title also makes mention of 'concatenation,' which as I hope to show, was by this time largely reduced to derivational morphology, and took the form of inflecting suffixes. Although I am not going to focus on these derivations in diachronic perspective, I will suggest in passing why it is that they seem to comprise a good example of Talmy Givón's dictum that Yesterday's syntax is today's morphology.' A number of the structural principles displayed in the rich derivational morphology of this language show strong and interesting resemblances to principles that inform the stucture of more properly serial constructions in languages such as Lahu (as described in, e.g., Matisoff 1969) or even English.

A brief survey of the combinatory potential of lexical bases (verbs, adjectives) and the various optional suffixes that comprised predicators in this language reveals that while the lexical bases can also be used alone as independent verbs, this is not true of the suffixes. Diachronically, the derivational morphology seems to have emerged as concatenations of separate verbs grammaticalized into strings of sequenced suffixes, and the initial syllable of all but the initial verb was in almost all cases reduced to zero, so that the derivational suffixes of the attested language are actually 'decapitated' verbs-turned-bound morphemes. Nevertheless, this array of suffixes, which serve to express valency shift, voice, aspectual shift, and various kinds of modality, retains many features that have been associated with serial verb constructions. What I should like to do is to describe the system of predicator suffixes in enough detail to suggest that the roots of this language's derivationally expressed system of voice and aspect -- if not modality -- may well have been serial in form.

The derivations of predicate morphology in classical Japanese can be described as a set of inflecting suffixes, which attach to various inflected forms of the string they modify. A string consisted minimally of a lexical base, and up to four optional inflecting suffixes. My treatment will of necessity be selective, and limited to such features of the concatenation as are necessary to depict essential parameters. In the discussion to follow, I will refer to lexical bases and inflecting suffixes in terms of syllabic segments, which in the Japanese language of this time were of the shape (C)V. While a case can be made for a morphophonemic analysis that describes the language's verbs in terms of two main classes, viz. vowel-stem and consonant-stem (depending on the final segment of each), my transcription will follow the prosodic structure reflected in the Japanese orthography, for purposes of simplicity. This will make little difference for the discussion at hand, which will focus more on morphotactics than on morphophonemics.

There are two suffixes which mark shift in the valency of the predicate in classical Japanese. One of them, -[sa]su, is basically causative, and adds an argument to the predicate structure; the other, -[ra]ru, is at bottom a kind of middle voice, and indicates that the event represented occurs without any kind of volitional instigation, in a spontaneous manner. Each, however, has its extended uses, such as subject honorification, potentiality, and passivization. In order to indicate a property that the notions of causation and middle voice share with two kinds of perfective aspect -[sa]su and -[ra]ru will also be referred to respectively with the terms 'exoactive,' that is, externally instigated, and 'endoactive,' or internally initiated. Although I shall not argue the point here, I believe that the extended meanings of honorific, potential, and passive can be explained with reference to the transitivity, or valency, structures of these two suffixes, and so I take the notions causation and middle voice to be at the heart of what they mean. In terms of transitivity structure, -[sa]su and -[ra]ru represent, respectively, high and low transitivity, in the sense of Hopper and Thompson 1980: a causative involves an agent acting volitionally upon an object, with the result that some change is effected in it; the middle voice, by contrast, involves but a single argument, which undergoes some change as a result of an event that has no volitional, causing agent. These two suffixes thus provide derivational resources for making highly transitive predicates out of intransitive ones, and vice-versa. Furthermore, their binary difference in fact mirrors the most regularly developed distinction in the world of the Japanese verb: volitional transitive vs. non-volitional intransitive. Both earlier stages of Japanese and the present-day language feature several very large classes of paired verbs, one member of which is canonically transitive and the other of which is intransitive. Some examples of these paired verbs, which share the same root, are given below.

PAIRED TRANSITIVE/INTRANSITIVE VERBS (a sampler)

| | | |
|---|---|---|
| akasu 'spend [the night]' | madofasu 'confuse [him]' | sagaru 'it lowers' |
| aku 'day dawns' | madofu 'become confused' | sagu 'lower it' |
| nasu 'make X' | utsusu 'move it' | toosu 'let pass' |
| naru 'become X' | utsuru 'it moves' | tooru 'pass through' |
| kawakasu 'dry it' | chirasu 'scatter it' | morasu 'let leak' |
| kawaku 'it dries' | chiru 'it scatters' | moru 'it leaks' |

These verbs typically fall out at the high and low ends of Hopper and Thompson's transitivity scale. The two suffixes to be examined, then -- causative -[sa]su and middle voice -[ra]ru -- continue the same expressive options that are so highly developed in the lexical classes of the paired transitive and intransitive verbs.

The use of these suffixes is illustrated in examples (1) and (2) below. The capitalized segments represent the suffix under discussion. Parenthesized capital letters to the right of each example are abbreviations to indicate the text from which the example was taken.[1]

(1) me no onna ni azuke-te yashinawa-SU. (TM)[2]
wife LOC place-PF rear-CAUS

'Leaving [the girl] with his wife, he had her bring [her] up.'

(2) isogi maira-SE-te (ZM)
hurrying go-CAUS-PF

'Having sent [him] in a hurry, . . .'

(3) kaera-SE-tamai-nu (TM)
return-CAUS-(↑)-PF

'[He] sent [him] home.'

In the first example, there are two clauses, one ending in the nonconclusive infinitive -te of a perfective suffix (an allomorph of the suffix -tsu).[3] This indicates that the action of placing the girl has been realized. The following, main predicate of this sentence indicates that the temporally subsequent act of 'bringing up' was imposed upon the wife. The causative element is the capitalized suffix -su, which is here used in its unmarked finite form, signalling the mention of new, or unpresupposed, information. The causee, the wife, is marked as the indirect object with the general locative particle ni 'in, on, at.' The causing agent, this woman's husband, is the topic of this stretch of the narrative, and is consequently unmentioned in this sentence. Note that both the lexical bases and the attached suffixes of these two predicates occur in forms that are members of an inflectional paradigm. In example (1), both the base azuke and the perfective suffix -te of azuke-te occur in infinitival form; the exoactive -su is bound to the nonfinite base yashinawa-, and is itself inflected, again, in the unmarked finite.[4]

In example (2), we have the same exoactive suffix, but this time it occurs in its infinitive form, -se, and is followed by the perfective infinitive -te. Selectional restrictions are such that the valency suffixes and the perfective suffixes attach to different inflected forms: the former fuses to a form of its lexical base that never occurs alone, while the latter attaches to the infinitive. In both cases, however, the base is non-finite.

Example (3) shows a concatenation of the verb base kaera-, causative infinitive -se, subject honorific -tamai, also in its infinitive, and the unmarked finite inflection of perfective -nu. I will distinguish between the two perfective suffixes of classical Japanese, -tsu and -nu, when we take up the aspectual suffixes. (The upward-pointing arrow under -tamai is meant to indicate the 'looking up to' the referent that is implicit in the use of this honorific by the speaker.)

The next examples, (4) through (6), show the other valence/voice suffix, endoactive -[ra]ru, at work.

(4) Fude o tore-ba mono kaka-RU (TC)
brush ACC take-COND things write-MID

'When I take up my brush, things just write themselves.'

(5) Yuki ka to nomi zo ayamata-RE-keru (KKS)
snow DI QUOT only ID mistake-MID-FACT,,

'I took [the blossoms] to be, of all things, *snow*.'

(6) Yorozu ni oboshi-tsuzuke-RARE-te (GM)
many LOC think(↑)-continue-MID-PF

'Unable to stop thinking of the many [things on his mind], . . .'

In the sentence that comprises example (4), the final predicate kaka-ru 'gets written' consists of a transitive verb that has been transformed into an intransitive one, by means of the endoactive suffix. The suffix appears here in its unmarked finite form, with the usual meaning of 'new information established.'

Example (5) shows the same endoactive suffix in its infinitive form, attached to the lexical base ayamata-, to yield ayamata-re, which is followed in turn by the modal suffix of established fact, here in its marked finite form, -keru. The effect here, as context suggests, is that the speaker did so unintentionally: this perception of blossoms as snow -- conventional to poetry of the period -- 'just happened,' despite himself.

In example (6), we have the compound lexical base oboshi-tsuzuke-, a verb which by itself denotes *volitional* continuation. It is marked with the endoactive valency suffix to indicate that in this case, the thinker is not acting volitionally.

Despite their antonymy, the two valency/voice converters -[sa]su and -[ra]ru did in fact occur together. Such combinations most likely evolved from strings like that in example (7), where the word kokoro-ogori 'heart-pride' (a compound noun of the form /noun + verbal infinitive/) combines with the light verb su 'do, make' (there in pretextual base se).

(7) Ware-nagara kokoro-ogori se-rare-shi (Ok)
I-despite heart-pride make-MID-FACT,

'My heart was filled with pride, despite myself.'

The light verb creates a verbal structure, to which kokoro-ogori 'heart-pride' provides the lexical content; the attached suffix of middle voice -rare indicates that this occurrence of 'heart-pride' was not volitional. The source of the endoactive -[ra]ru, by the way, is generally assumed to be the unmarked verb for 'be.' With respect to the middle, the order of the light verb su in this example is just the same as it would be if instead of the noun kokoro-ogori we had a non-finite verbal base, and the following su functioned as a suffix: ogora-se-rare- 'was made to feel proud'. It is generally agreed that this verb su, in fact, is the source of the exoactive valency suffix.

Let us now review the morphotactics illustrated in examples (2), (3), (5), (6), and (7). In each case, -[sa]su or -[ra]ru is embedded inside another suffix. The suffix that follows on the outside expresses, respectively, an aspectual meaning (perfective -te, as in numbers [2] and [6]), politeness (tamai in number [3]), or one of the two varieties of established fact (numbers [5] and [7]). Example (3) is interesting for the morphotactics evident there: the order of formative elements is apparently first, lexical base; second, a valency/voice suffix; third, a polite verb; and fourth, perfective. It would seem that when a verb is marked for valency/voice conversion and also politeness, aspect or modality, the valency/voice suffixes will in every case attach adjacent to the base, that is, come in a position closer to the verbal head. Example (3) also suggests that while politeness suffixes do not attach to the lexical base before those of valency/voice, they do attach at a point closer than suffixes expressing aspect: -tamai follows -se, but precedes -nu. The base is invariably non-finite, whether it is simply lexical or lexical plus suffixe(s).

With this much of the picture sketched in, let us turn next to those suffixes that express perfectivity, and consider their place in this linear scheme. For this, we need to examine examples (8) through (15), which folow:

(8) Jin no to ni hikisute-TSU. (MS)
guardhouse GEN outside LOC drag-discard-PF

'They discarded [the dead dog] outside the guardhouse.'

(9) Soko ni hi o kurashi-TSU. (MS)
there LOC day ACC spend-PF

'[We] spent the day there.'

(10) Ika de kiki-tamai-TSU-ramu. (MS)
how being hear-(♠)-PF-CONJ.,

'How could [he] have heard/found out?'

(11) Sari to mo goranji-TE-mu (IN)
that way QUOT even look(♠)-PF-CONJ,

'That's *just* how he may see it.'

(12) Haya fune ni nore. hi mo kure-NU. (TN)
fast boat LOC board sun even darken-PF

'Get in the boat quickly. The sun'll be setting.'

(13) Hisashi[k]u nari-NURE-ba, . . . (GM)
long time become-PF-COND

'A long time having passed, . . .'

(14) Yatsuhashi to iu tokoro ni itari-NU. (IM)
p.n. QUOT call place LOC reach-PF

'They reached a place called Eight Bridges.'

(15) Fune kozori-te naki-NI-keri (IM)
boat gather-PF cry-PF-FACT.,

'Everyone in the boat started weeping.'

As with the lexical classes of paired transitive and intransitive verbs and the valency/voice converters -[sa]su and -[ra]ru, the options for expressing perfective aspect in classical Japanese also seem to distinguish between volitionally realized action on the one hand, and non-volitional realization, on the other. Examples (8) through (11) illustrate several inflected forms of the perfective suffix -tsu, which until the eleventh century or so was preferred in a clear majority of cases when an affirmative, transitive predicate was marked for simple realization. (Cf. Ono et al. 1974: 1432 ff.) Marking aspectual realization of volitionally instigated events was not the only meaning served by -tsu, but it looks to have been the prototypical one, from which all other uses can be explained as increasingly abstract extensions. We can follow the distinction we drew for valency/voice conversions, and call it the 'exoactive perfective,' to indicate that the realization it indicates is prototypically imposed by a volitional agent, from 'without.'

Example (8) features a highly transitive verb as the lexical base, and it is further specified with the unmarked finite of exoactive perfective -tsu, which gives us a simple declarative sentence. In example (9), we have a statement that the writer 'spent' a 'day' somewhere: the lexical base kurashi- is not as transitive a verb as that in the preceding example, but it is volitional, at least, and transitive nonetheless. The following -tsu is again in its basic finite inflection. The next example, (10), shows the same exoactive perfective -tsu, but this time in non-final position. Note that it comes after the infinitive tamai of the honorific verb tamau, and before the modal suffix of conjecture, -ramu.[5] The statement is thus a conjecture about how an honored person might have got access to some information. Kiku cannot be said to be as transitive a verb as those in examples (8) and (9); it may be that in (10), the suffix itself implicates some effort on the part of the referent in 'finding out.' Of greater interest in this example, however, is the order of the suffixes. There is no valency/voice suffix, but after the lexical base, we have in order: 1) politeness, in tamai; 2) exoactive perfectivity, in -tsu; and 3) conjecture on the part of the speaker about this realized hearing, as marked with the final -ramu.

Example (11) shows exoactive perfective -tsu in its infinitive form -te, attached to the infinitive of the lexical base, as in previous cases. Again, a modal suffix follows an aspectual one. The modal this time too has to do with conjecture, but indicates that the guessed-at situation is closer to the speaker than the one examined in the previous example. This more proximate conjectural suffix, -mu, attaches not to the preceding perfective's unmarked finite, -tsu (as the distal conjectural -ramu does, in example (10)), but to its infinitive, -te. To the extent that the unmarked finite inflection -tsu is used to predicate indicative matrix clauses, and to the extent that infinitives like -te are *not* so used,[6] the bond of the modal -mu can be said to be a tighter one, making it more of a piece with what precedes it than is the bond of the suffix -ramu. The less finite the base, the tighter the bond with the following suffix. Conversely, the more finite that base is, the more independent it is from what attaches to it, and the looser the bond between them.

Examples (12) through (15) illustrate another perfective suffix, which, continuing to draw the parallel with the valency/voice options, we can call *endoactive* perfective -nu. This suffix complements the exoactive -tsu in that it is found predominantly with intransitive, non-volitional predicates, and appears to have expressed a kind of realization that was not caused, but rather just 'happened.' In example (12), it is used of future time, spoken by a ferrymaster in warning to his dallying passengers. The sun's setting, of course, is a non-volitional event, as is the predicate hisashi[k]u nari 'become a long time' in sentence (13). In example (14), the intransitive and non-volitional verb itaru occurs in its infinitive. Nu simply indicates that the arrival expressed with this infinitive is realized, in a similar way, i.e., without causation. Incidentally, neither -tsu nor -nu necessarily indexes an event with respect to another time, although each does have extensions that amount to a kind of epistemic confirmation and a kind of 'high evidence,' or proximate, past tense. Depending on the discourse frame, sentence (14) could be interpreted as immanent (future) realization, as we saw in example (12). It seems clear that -nu is basically aspectual.

Example (15) describes an event with an intransitive lexical base, naki (infinitive of the verb naku), which is sometimes used to describe volitional acts (e.g., when suffixed with -tashi 'want to') and sometimes not. The use of endoactive perfective -nu, here in its infinitive form -ni-, underlines the non-volitional nature of the weeping on this occasion, when a poem composed on the spot moved them so that they could not help but shed tears. Here, as with -te- in example (11), the suffix itself seems to sway the interpretation of

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the verb in its own direction, in this case, the non-volitional endoactive one. The final suffix on this predicate is the modal of externally or objectively established fact, -keri, used in its unmarked predicative form.[7]

None of the examples in the aspectual group of numbers (8 )through (15) violates the morphotactic pattern we established with the first seven examples. To review that ordering, it is 1) lexical base, then 2) valency/voice, 3) politeness, 4) aspect and, last, 5) modality. Furthermore, each suffix inflects in a pattern that matches a major verb inflection paradigm. This inflectional similarity with verb paradigms is striking, and constitutes evidence for the verbal origins of these suffixes. The inflectional paradigms of some suffixes are regular, while others are deficient in certain categories. The deficiencies, it seems, are understandable on the basis of semantic factors. Chart I shows just how closely some of the suffixes match the inflectional paradigms for verbs.

## Chart I

| | verb 'do' | valency/voice suffix EXO |
|---|---|---|
| 1. pretextual base | sa- | (sa)se- |
| 2. unmarked infinitive | shi | (sa)se |
| 3. unmarked finite | su | (sa)su |
| 4. marked infinitive | sure | (sa)sure |
| 5. marked finite. | suru | (sa)suru |

| | verb 'separate' | valency/voice suffix ENDO |
|---|---|---|
| 1. pretextual base | wakare- | (ra)re- |
| 2. unmarked infinitive | wakare | (ra)re |
| 3. unmarked finite | wakaru | (ra)ru |
| 4. marked infinitive | wakarure | (ra)rure |
| 5. marked finite | wakaruru | (ra)ruru |

| | verb 'discard' | Exoactive Perfective suffix |
|---|---|---|
| 1. pretextual base | ute- | te- |
| 2. unmarked infinitive | ute | te |
| 3. unmarked finite | utsu | tsu |
| 4. marked infinitive | utsure | tsure |
| 5. marked finite | utsuru | tsuru |

| | verb 'die' | Endoactive Perfective suffix |
|---|---|---|
| 1. pretextual base | shina- | na- |
| 2. unmarked infinitive | shini | ni |
| 3. unmarked finite | shinu | nu |
| 4. marked infinitive | shinure | nure |
| 5. marked finite | shinuru | nuru |

summary of inflectional functions

1. pretextual base Names; morphotactic only; never occurs free.
2. unmarked infinitive Names; has textual functions; occurs alone.
3. unmarked finite Names; enters information as (new) text.
4. marked infinitive Names and refers to information as given.
5. marked finite Names, refers, enters information as text.

All of the above paradigms are complete for both the example verbs and for the suffixes. As I mentioned earlier, the valency/voice conversion suffixes -[sa]su and -[ra]ru are believed to grown out of what was originally the application in the role of serial verb of su 'do, make' and ari 'be,' respectively. Similarly, exoactive perfective -tsu and endoactive perfective -nu would seem to have originated in a serial application of the verbs utsu 'discard' and inu 'depart,' respectively. If this is the case, all of these verbs lost their first syllable as their relation to the preceding base grammaticalized: ari lost a, utsu lost its initial u, and inu, its initial i. This reduction is quite consonant with what we know about subordinate elements when they are juxtaposed to their heads: the nuclear element retains its form, while the satellite's form is reduced at the point of contact. The principle is an iconic one, in that where meanings are joined, structures are joined, with the lesser adapting to the major.[8] The head in this case is the semantic head, i.e., the morphological base, and not the superordinate syntactice one, which comes last in the string and determines the grammatical category of the expression as a whole.[9] Once this has happened, it seems clear that we are no longer dealing with serial verbs, but with their grammaticalized descendants, derivational suffixes.

It has been mentioned that not all suffixes show complete inflectional paradigms, and that this is generally understandable on semantic and/or functional grounds. Some of the modal suffixes cited in sentences (1) through (15), for example, are lacking pretextual bases and infinitives. The conjectural suffixes -mu and -ramu lack a pretextual base, which is to say that they play no roles in the larger structures that are built on that base, such as valency/voice conversion, conditionals, or negation. Nor do they participate in the expression of any derivations that take the infinitive as base, such as politeness, perfective aspect, or the modality of established fact. Actually, none of these meanings or functions matches very well with the meaning and function of -mu and -ramu, i.e., with conjecture or guessing about situations respectively near or removed from the speaker. The absence of unmarked infinitives in the paradigms of the modals of established fact, -ki and its derivative -keri, would seem to be for similar reasons.

At this point, we are ready to summarize the virtual structure of the concatenative strings we have been looking at, with an eye to the sequence of suffixes, from lexical base out to the periphery. Most possible suffixal options and their sequencing are summarized in Chart II, presented below.

## CHART II

## CONCATENATIVE SUFFIXES SUMMARY: Ordering of Suffixes

*(/ = an inflectional interface)*

| 1 + | /2 + | /3 + | /4 + | /5 + | /6 // |
|---|---|---|---|---|---|
| **/lex. base/** | **valency /** | **politeness /** | **aspect** | **/ modality$_1$** | **/ modality$_2$ //** |
| Endo-<br>Exo-<br>active | Endo-<br>Exo-<br>active | up-down,<br>apart | Endo-<br>Exo-<br>perfective;<br>perfect | Est'd Fact<br>('past tense');<br>conjecture<br>negation | like-<br>lihood |
| | | inner **derivational** suffixes | | outer **derivational** suffixes | |
| | *THE REPRESENTED SITUATION* | | | *MODALITY* | |
| | realm of the talked-about | | | realm of the talkers, their beliefs, attitudes, etc. | |

## CONCATENATIVE SUFFIXES SUMMARY: Ordering of Suffixes

*Examples of the forms that fill the slots*

| lex. base | / valency | / politeness | / aspect | modality$_1$ / modality$_2$ |
|---|---|---|---|---|
| hanaru | -[ra]ru | -tamau | -nu | -ki -mu -zu -ramu |
| hanasU | -[sa]su | -tamau,, | -tsu | -kemu -ji -beshi |
| | | | -[a]ri | -rashI |
| | | | -tari | -zari -maji |
| | | | | -keri -meri |
| | | *inner derivational suffixes* | | *outer derivational suffixes* |

*Canonical Ordering of Morphological Marking on Verbs*
*(tendencies across 50 languages: Bybee 1985)*

| lex. base + | valency + | directional + | aspect + | tense + | mood + |
|---|---|---|---|---|---|
| *In above scheme, corresponds to:* | | (politeness) | (same) | (FACT modality) | (nonfactual modality) |

A predicate string in the Japanese of this period could be suffixed with up to five suffixes, which are here represented in the numbers between the slashes. It is useful to think of each of these as a separate *layer*, since each suffix has scope over those that precede it, such that valency conversion has scope over the lexical base, politeness has scope over both the lexical base and whatever valency suffix is attached to it, and aspect has scope over all of these. I have listed two kinds of modality, one each in layers 5 and 6; the difference between the two is that modals of layer 5 can be applied to situations or states of affairs that are evidentially accessible or close to the speaker, such as action s/he herself was or will be involved in, while layer 6 is reserved for modals that put the situation at an evidential remove from the speaker. Every suffixal layer is optional; all you really need for a predicate is the lexical verb or adjective. The respective ordering of the five layers that follow the lexical base is fixed, unless at some point in the derivation the verb ari 'be' is suffixed. This in effect 'restarts' the string, so that, for example, suffixes from as early as layer 4 can apply over a string that includes a modal from layer 6, if only it has been reframed with the 'be' verb (e.g., yuku-bek[u]ari-tsu 'will most likely have gone'). The 'be' verb can be suffixed to the base string at any level, all the way out to the second modal layer. I have elsewhere (1987) called such 'be' derivation 'complex conjugation,' and contrasted it to 'simplex,' which is what we have represented here. Adding the 'be' verb seems to create a detached, observed perspective, as if one were saying 'there is' of the string to which it attaches. But this takes us beyond the present discussion.

On the basis of the suffixes' scope, we can think of the continuum represented Chart II in terms of two meta-layers, 'inner' and 'outer,' which are indicated by the vertical line drawn between aspect and the first modality layer. Immediately following the lexical base and extending through the layer that includes the aspectual suffixes we have the inner suffixes of valency, politeness (a kind of social deixis), and the perfectives. The term 'inner suffixes' makes a useful distinction because up to the aspectual layer, all meaning is relevant to the state or event represented by the lexical base. To use a term of Michael Halliday's, this is the realm of *ideational* meaning. The 'outer suffixes,' by contrast, function to assess or comment on whatever has been expressed with the resources available through layer 4, by, for example, asserting as fact, conjecturing, denying the likelihood, etc., of that information. As suggested earlier, there is a remarkable consistency to be observed across the layers of the the lexical base and of the suffixes of valency and aspect, such that the basic distinction between transitive and intransitive coded in so many paired lexical verbs is available derivationally through level 4, in the form of the exo- and endoactive options for valency and for perfectivity. This can be seen in the sample list of forms given in the middle section of this chart. The two lexical verbs on the left, intransitive hanaru 'get free' and transitive hanasu 'set free,' set the parameters for event-relevant semantic adjustments, namely the valency/voice suffixes endoactive -[ra]ru and exoactive -[sa]su and the perfective suffixes, endoactive -nu and exoactive -tsu.

The layering of suffixes can be interpreted as a structural correlate of a hierarchy of different meanings, each of which applies over the meanings embedded under it. Functionally speaking, the hierarchical arrangement allows components to be manipulated as a whole in the course of higher-order operations. The scheme as a whole is diagrammatically iconic, in that meanings that apply over other meanings stand in superordinate relation to those meanings. As Dan Slobin and his associates have taught us, this is a natural kind

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of order, the order in which similar meanings are near each other, and dissimilar meanings distant, the order with which children have least trouble when learning for the first time to use verbal predicates with multiple parts.

Another side to this iconicity is that the more 'given' information comes earlier, insofar as every suffix presupposes the string it attaches to. That is, every suffix presupposes the lexical base and any other suffixes that precede it. Yet another kind of iconicity has to do with the degree to which a suffix is phonetically fused to its preceding string. I think a case can be made for the more inner suffixes, in particular the valency convertors, being more tightly fused to the lexical base than any other suffixes are. This is because the base to which valency suffixes attach, the pretextual base, only occurs subordinate to other structures, and never alone. In contrast to the valency suffixes, all suffixes from layers 3 and 4 attach to the infinitive, which serves a number of functions, some of them as a free word. There is no phonetic fusion between the infinitive base and the suffixes of these layers.

Among the outer suffixes of layer 5, the modals of established fact attach to the infinitive, while the modals of layer 6 attach to the unmarked finite form, i.e., to strings that are already marked with sentence-final, predicative inflections. Thus, the bond of layer 6 suffixes to their preceding strings is weakest of all. For the most part, then, suffixes that have least to do with the ongoing discourse -- valency and irrealis modality -- attach most tightly to the string that precedes them.

Since Japanese is an SOV language, the superordinate elements come later in the linear string. I have not provided a tree diagram, but if we had one, it would branch to the left, and the lexical base and its valency suffix would be hung from the tips of the lowest branches, and politeness, aspect, modality$_1$ and then modality$_2$ would appear in succesively higher nodes. This gives us the interesting consequence that the modal suffix that completes the string is the syntactic head, and the lexical base, which all five layers of suffixes modify, is syntactically the most subordinate element of the string. Morphologically and semantically, the head might be said to be the lexical base, but syntactically and for the purposes of placing the string in the larger discourse, it must be the final, superordinate suffix that is head. It is the superordinate suffix, too, by which the entire string is categorized grammatically.

The last verbal examples, numbers (16), (17), and (18), are about as heavy as the layering actually gets on any one verb, that is, three suffixes' worth. I have drawn some nested boxes on example (16), in order to show the scope of each suffix, which, as the scopes suggest, we can consider as operators over what precedes them.

| | | | | | |
|---|---|---|---|---|---|
| (16) | ke | rare | tari | shi | o |
| | kick | MID | PRF | FACT$_1$ | HYPO |

**verb base + voice + aspect + modality**

'because [he] was kicked, . . .'

| | | | | |
|---|---|---|---|---|
| (17) | kooburi | tamaware- | / -ri | / -kere-ba |
| | court cap | be bestowed | PRF | FACT$_{11}$-COND |
| | | verb base | + per- fect | + FACT$_{11}$ |
| | | *lexicalized verb + middle* | *aspect -ual shift* | *epistemic modality* |

'Since [he] had been awarded his court cap [= rank], . . .'

| | | | | | | |
|---|---|---|---|---|---|---|
| (18) | kurai o | kaeshi | / tatematsuri | / te | / shi | o |
| | rank ACC | return | do (↓) | PF | FACT$_1$ | HYPO |
| | | verb base | humble polite | perfective | Established Fact$_1$ | |
| | | *verb base* | *social deixis* | *aspectual shift* | *epistemic modality* | |

'although [I] had retired from office [lit. returned his rank], . .'

In (16), (17), and (18), the syntactic head is the last operator, which has the function of fitting the string into the larger context in which it does its work. In all three of these examples, that larger context is a matrix clause, for which each of these hypotactic clauses provides a reason. All but the final suffix/operator, moreover, are in non-finite form. In example (16), for example, the lexical base ke- is the pretextual base, a non-finite form that serves as base to valency suffixes and irrealis modality following. The endoactive valency suffix -rare then occurs in its unmarked infinitive form. The last operator in this string, established fact -shi, is in its marked finite form. I have added a display under each example, above the English translation, to schematize the significance of the three suffixes in use.

The structure of the derivational morphology of predicates in classical Japanese, then, takes the form of an iconically motivated (but entirely optional) layering of inflecting suffixes, which attach to a lexical base in the order 1) valency, 2) politeness, 3) aspect, 4) modality of greater evidential proximity, and 5) modality of less evidential proximity. It would appear that all of these suffixes originated in full verbs, such as su 'do, make' and ari 'be' for the valency suffixes -(sa)su and -(ra)ru; tamau 'humbly receive' for the identical honorific; or verbs utsu 'discard' and inu 'go away' for the perfective suffixes -tsu and -nu -- to name but a few. (Again, the inflectional paradigms of these suffixes match those of the verbs they are supposedly derived from.) In light of these more or less accepted etymologies, not to mention similar precedent in a good many other languages, it seems rather likely that the layered, suffixal predicate of classical Japanese is a more grammaticalized descendant of an earlier arrangement which was serial in structure. We may assume that the linear ordering of the component parts of this serial ancestor was the same iconic one that persists through the attested classical language we have examined here to the morphotactics of predicates in the present day language. The primary difference between the serial stage and the layered, suffixal structure attested in the classical texts would be the phonological reduction that followed the reanalysis of erstwhile serial verbs as inflecting suffixes; as the above list suggests, at some point, the serial verbs that followed the lexical base lost their initial syllables, as each following verb (the 'satellite,' in Langacker's [1987] term) merged phonologically with the base that preceded it. In this way, we may surmise, the verb utsu 'discard' eventually yielded the perfective suffix -tsu 'volitionally instigated realization,' as the verb inu 'withdraw, go away' yielded the perfective suffix -nu 'nonvolitional realization.' That derivational morphology in classical Japanese is suffixal in form follows rather naturally if we assume an earlier serial structure, reanalysis, and, in selected environments, phonological merger. The conversion of these verbs into suffixes would have played out in a scenario of the sort described by Givón (1988) and others, whereby structural code adjustment follows functional/pragmatic innovation.

The serial hypothesis makes sense too if we examine the attested classical predicate for typically serial characteristics. The layered complexes we have examined fit all of Sebba's (1987) criteria for serial verbs save the stipulation that 'both V1 and V2 must be lexical verbs, i.e., must be capable of appearing as the only verb in a single sentence.' The other criteria -- shared tense and aspect, monoclausality, and no conjunctive interruptions -- are met. Of all of the classical suffixes, only honorific tamau and humble/distal haberi, which did not undergo phonological merger with their preceding bases, would meet the 'independence' criterion; the vast majority of suffixes would not, for they had lost their initial syllable when functioning in concatenative strings of the sort we have examined. The layered suffixal predicate also meets three of Sebba's four criteria for 'subordinating' serial verb constructions: the 'single action' constraint, a 'strict ordering relation' among the verbs, and subcategorization constraints imposed by the initial verb in a string for those that follow[10] it. The 'shared common argument' applies only when the suffixes are inner operators, i.e., when their function is ideational, and the notion of 'argument' is relevant, as for example, with the subject of sore kaeshi-tamau '(someone honored) will return that'. In this sentence, the subject of kaeshi (infinitive of transitive kaesu 'return') is also the subject of tamau. Nevertheless, if we look for a shared object, it does not emerge: sore is not the object of tamau -- certainly not in the sense that it is the object of kaeshi. As the nested boxes in example (16) suggest, each successive suffix applies to the *entire string* (arguments, bases, suffixes) that precedes it, and thus only indirectly to the arguments of that initial lexical base. And the notion of an 'argument' is simply not relevant to a verb/suffix that expresses modal meaning. Only the suffixes of valency and politeness would seem at all likely to meet the 'shared argument' criterion; it is not clear how crucial the 'shared argument' criterion is to serial strings in which the only guaranteed shared argument is a subject, as would have presumably been the case with our hypothesized pre-Japanese predicates.

Although the layered suffixal strings of classical Japanese predicates likewise fail Noonan's (1985) requirement that the shared argument be an *internal* argument (e.g., a direct object), they do meet his other four criteria for serialization, viz. 1) simple juxtaposition of the verbs involved, 2) close semantic tie/same event, 3) single mood, evidential status, and/or polarity, and 4) joining of the verbs into a word-like unit. The shared internal argument criterion would seem to be one way of distinguishing serial constructions from sequences of verbs that constitute a unit of /head + auxiliaries/. Even if we consider the kinds of strings we have examined hypothetically, i.e., in their pre-suffixal, full-verb form, then, it is only in a special sense that more than one of the component verbs would have shared a single internal argument.

There are other ways in which the suffixal strings of classical Japanese predicates resemble serial verb constructions. As most of the examples we have examined suggest, the suffixes attach to two kinds of base: finite and non-finite. Inner suffixes, which are primarily of ideational significance, attach to non-finite bases,[11] while the outer suffixes -- the various modals -- attach primarily to finite bases.[12] This suggests that the outer suffixes are not as much a part of the string structure as are the inner ones. If any part of the classical Japanese predicate was at one time serial in structure, then, it seems that it would have been at the inner, not outer layers, since it is these layers that are almost always non-finite, and show the typically serial characteristic, found 'with great cross-language consistency,' of 'lack[ing] most grammatical trimmings of verbhood,' since they are coded 'not . . . as typical verbs, but rather as stripped-down stems' (Givón 1988: 40). By contrast, insofar as they attached to a *finite* base, the *outer* suffixes of this language did not co-lexicalize to the extent that the inner suffixes did. Significantly, the outer suffixes do not interact at the ideational level with the string to which they attach,[13] and they apply to virtually any kind of preceding string, regardless of its semantics.[14]

If serial verb constructions tend to develop 'gradually from independent, finite verbal clauses, through various stages of reduced finiteness toward eventual full grammaticalization' (Givón 1988: 42), it is the inner suffixes of these derivational strings that would have followed such a course of evolution. In sum, the derivations of classical Japanese are part suffix and, in terms of their inflections, part verb. Inflections suggest verbal origins, and the morphotactics suggest that those origins were in some sense serial. Finally, for an SOV language like Japanese, a category of verb/suffix is the expected analogue to what Pawley (1973) and Durie (1988) have called 'a common feature' of Oceanic languages, 'lexical categories intermediate between verb and preposition' (Durie 1988: 1), which derived from earlier, serial verbs.

## Notes

1. Abbreviations for grammatical items are as follows:
   - ACC = accusative
   - CAUS = causative, 'exoactive' valency
   - COND = conditional
   - CONJ$_{i}$ = conjecture (subjective, evidentially proximate)
   - CONJ$_{ii}$ = conjecture (objective, evidentially distant)
   - DI = doubted identification
   - FACT$_{i}$ = established fact (subjective, evidentially proximate)
   - FACT$_{ii}$ = established fact (objective, evidentially distant)
   - HYPO = hypotaxis (marked on subordinate clause)
   - ID = identification
   - LOC = locative
   - MID = middle voice, 'endoactive' valency
   - QUOT = quotative
   - PF = perfective
   - PRF = perfect

2. For the record: GM = *Genji monogatari*; IM = *Ise monogatari*; IN = *Ienaga nikki*; KKS = *Kokinshû*; TC = *Tsutsumi chûnagon monogatari*; MS = *Makura no sôshi*; OK = *Ôkagami*; TN = *Tosa nikki*; TM = *Taketori monogatari*.

3. This suffix will be relabeled as 'exoactive perfective,' and opposed to an 'endoactive perfective' in the section below on the two varieties of perfectivity.

4. A functional reanalysis of the traditional inflectional options in classical Japanese gives six (four non-finite and two finite): a pretextual base (*mizenkei*, non-finite), an unmarked infinitive (*ren'yôkei*), a marked infinitive (*izenkei*, which marked presupposed information), an unmarked finite (*shûshikei*), a marked finite (*rentaikei*, which marked presupposed information), and an imperative (*meireikei*, non-finite).

5. The distinctions marked with the subscripted 'i' and 'ii' on the paired modals of FACT and CONJecture need not concern us here, but in each case, the shorter form -- marked with 'i' -- refers to the situation as being evidentially closer to the speaker, in space, time, or otherwise, than the longer form, which is labelled with 'ii.'

6. Unless the verb is a pure stative verb of the *ari* 'be' class.

7. Three points about *-keri*: 1) it is a compound of FACT$_{i}$ *-ki* and the verb *ari* 'be;' 2) it differs from FACT$_{i}$ *-ki* in terms of greater evidential or epistemic distance from the speaker (rather as CONJ[ecture]$_{ii}$ *-ramu* differs from CONJ[ecture]$_{i}$ *-mu*); 3) like *ari* and all purely stative verbs, declarative uses of this suffix used its infinitive.

8. On this point, see the discussion in Langacker 1987: 361 ff, especially p. 363.

9. See the distinction drawn in Arnold Zwicky's paper, this volume.

10. This is true, to a certain extent, of what I have called 'inner' suffixes or operators -- those of valency and aspect.

11. In traditional terms, to the mizenkei and the ren'yōkei.

12. The forms that end in /u/, traditionally termed shūshikei and the rentaikei.

13. In Halliday's terms, the outer suffixes serve a mostly 'interpersonal' function.

14. If a pause occurred at any point in these strings, we would expect it before one of the outer suffixes, and this would constitute evidence that they are not as suffixal in nature as their inner cousins.

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# Multi-verb constructions in Korean

In-hee Jo
Ball State University

## 1. Introduction

In this paper, I will investigate characteristics of a number of multi-verb construction of Korean which comprise a string of two or more adjacent verbs in a single clause, and whose syntacticosemantic and pragmatic behaviors crosscut other paratactic and hypotactic constructions. In the multi-verb constructions in question, the adjacent verbs are connected by a particle /a/ which is attached to the preceding verb, in the pattern of 'V1-a V2'. Thus they will be referred to as /a/-CONSTs in the following discussion, until a more detailed subclassification is in order. The followings are some typical examples:

(1) a. Tom-i cip-uro ttwi-a ka -ass -ta.[1]
-NOM house-to run go -PAST-DEC

'Tom ran to the house.'

b. Tom-i kong-lul kaci-a ka -ass -ta.
-NOM ball-ACC have go -PAST-DEC

'Tom took the ball away.'

c. Tom-i Mary-lul ttayli-a cuki -ass -ta.
-NOM -ACC strike kill -PAST-DEC

'Tom struck Mary dead.'

The /a/-CONST in (1) has traditionally been described as a verbal compounding rather than as a kind of syntactic construction (cf. Choi 1971: 281-85, Abasolo 1978, Yang 1978). However its lexical status as a verbal compounding has not been well established. No previous studies I know of have raised a serious question why the verbal structure should be considered as a lexical compound, but not as a syntactic phrase.

One of the main reasons why it has been described as a verbal compounding is because the strings of adjacent verbs, taken together, seem to denote a single event or action, instead of making separate assertions, as implied by the English translations in (1). For example, sentence (1b) comprises two verbs , /kaci/ 'have' and /ka/ 'go', but the natural reading of the sentence does not make a direct reference to such actions as 'having' and 'going'; it is better construed as a single assertion of 'taking away'. This is, however, too vague characterization of the construction to build any significant theoretical claims on.

On the other hand, another type of a verbal construction of the pattern 'V1-ko V2' (hereafter '/ko/-CONST') was also taken to be a lexical compound (cf. Yang 1978). However the morphosyntactic behaviors of the /ko/-CONST show that it is clearly a syntactic phrase involving a verbal coordination. Thus, I will compare and contrast the two types of constructions as well as other related multi-verbal constructions, and will claim that there are reasons to view such verbal structures as syntactic constructions rather than only as lexical compounds.

The purpose of this paper is to propose a classification of constructions based on their 'construction-specific' properties, and provide a syntactic analysis of them within a restrictive grammar which does not allow references to strictly morphological content in a syntactic rule. Section 2 is devoted to the description of the /a/-CONST and /ko/-CONST. Their internal structure are examined and claimed to be a VP-coordination, in section 3. A further subclassification of the /a/-CONST will be motivated in sections 4 and 5. Especially, the special semantics and pragmatics of verbs of 'coming and going' in one of the subclass will be discussed in detail in section 4. The question whether the constructions are to be viewed as lexical compounds or syntactic phrases is taken in section 6. Claiming that they are indeed syntactic phrases, I argue against the syncategorematic treatment of such particles as /a/ and /ko/, and motivate their morphosyntactic feature specifications. Finally in section [illegible], I provide morphosyntactic rules and operations for a fragment of Korean including the multi-verb constructions.

The main thrust of this paper is substantive rather than notational in character. For concreteness of the discussion, however, I assume a GPSG framework as in Gazdar et. al. (1985), and a inflectional morphology framework as in Zwicky (1985, 1988, 1989a). On the other hand, the complex behavior of the multi-verb constructions makes it difficult to immediately determine the bar-levels of the verbal expressions involved. Therefore, for the ease of exposition, 'VX' will be used as a cover symbol over V-type categories of whatever bar level in the following discussion, unless their bar-levels are not of an immediate concern. 'VX1' and 'VX2' will represent the first and the second V-type categories in the construction, respectively.

## 2. Properties of the /a/-CONST.

Among the /a/-CONSTs, let's first consider the most general type of constructions in (2). They are general in the sense that their syntax semantics and pragmatics are quite straightforward to describe, compared to other similar constructions. Some subclasses of /a/-CONSTs, which will be discussed in the next section, are parasitic on this basic type, but with a more heavily loaded semantics and pragmatics, and with one of the VXs in the construction being restricted to a small subset of verb categories.

(2) a. Tom-i (chimtay-wie) nup-a (khulkul) ca-n-ta.
-NOM bed -on lie soundly sleep-PRS-DEC

'Tom is sleeping (soundly), lying (on the bed).'

b. Tom-i ku ppang-ul kup-a mek-ass-ta.
-NOM the bread-ACC bake eat-PAST-DEC

'Tom baked and ate the bread.'

c. Tom-i John-ul (khal-lo) ocil-a (tansume) cuki-ass-ta
-NOM -ACC knife-with stab in-one-breath kill-PAST-DEC

'Tom stabbed John (with a knife) and killed him (in one breath).'

At first glance, the verbal constructions in (2) may seem to be simply examples of the VP coordination. As in the case of VP coordination, the two VXs share the same grammatical relation to the subject NP. If there is an object NP, as in (2a) and (2b), the verbs are interpreted as sharing the same object NPs. The construction combines exactly the same type of V-categories, i.e. IVs in (2a), and TVs in (2b) and (2c).

When we consider a wider range of examples, however, the /a/-CONST turns out to be distinct from the typical VP coordination, i.e. the /ko/-CONST. First, the following examples show that the verbs in /a/-CONSTs cannot have separate argument NPs, unlike /ko/-CONSTs.

(3) a. Tom-i ppang-to mek-(ass)-ko mul-to masi-ass-ta.
-NOM bread-too eat-PAST-and water-too drink-PAST-DEC

'Tom ate bread and drank water, too.'

b. *Tom-i ppang-to mek-a mul-to masi-ass-ta.
c. *Tom-i ppang-to mek-ass-a mul-to masi-ass-ta.

(4) a. Tom-un ppang-ul mek-(ass)-ko Mary-nun mul-ul masi-ass-ta.
-TOP bread-ACC eat-PAST-AND -TOP water-ACC drink-PAST-DEC

'Tom ate bread and Mary drank water.'

b. *Tom-un ppang-ul mek-(ass)-a Mary-nun mul-ul masi-ass-ta.

It is obligatory for /a/-CONSTs to share the same subject and object NPs, whereas /ko/-CONSTs may not necessarily share the same subject and object NPs. In addition to such a difference in the grammatical relations to the argument NPs, the two constructions differ in their inflectional markings such as tense, aspect and subject honorification.

As already implied in examples (3a) and (4a), each VX in /ko/-CONSTs can be independently marked in tense. In cases where the VXs share the same tense, the tense of the first VX may not be realized, without resulting in any significant semantic difference. Only the pragmatic implication changes such that when each verb is marked in tense, the assertions made by each VX are more independently interpreted than when only the second verb is marked in tense. The VXs, however, need not share the same tense, as illustrated in (5).

(5) a. Tom-un ppang-ul mek-(ass)-ko Mary-nun mul-ul masi-lke-ta.
-TOP bread-ACC eat-PAST-AND -TOP water-ACC drink-FUT-DEC

b. 'Tom ate bread and Mary will drink water.'
c. 'Tom will eat bread and Mary will drink water.'

With the past tense morpheme /-ass/ in the first verb, Sentence (5a) is interpreted as in (5b); with no tense morpheme, the two verbs are interpreted to share the same tense, as in (5c). On the other hand, in /a/-CONSTs, only the second verb is marked in tense, while the first verb must be unmarked in tense.

The two constructions exhibit exactly the same difference in the 'subject honorification'. The two verbs in /ko/-CONSTs can be independently marked whereas, in /a/-CONSTs, only the second verb is marked in the subject honorification, as shown in the following examples.

(6) apenim-i ppang-to {capsu-si-*a / capsu-si-ko} mul-to masi-si-ass-ta.
father-NOM bread-too eat-HON-and water-too drink-HON-PAST-DEC

'The father ate bread and drank water.'

(7) a. apenim-i chimtay-wie nup-a cumu-si-n-ta.
father-NOM bed-on lie sleep-HON-PRS-DEC

'The father is sleeping, lying on the bed.'

b. *apenim-i chimtay-wie nup-si-a cumu-si-n-ta.

All the above examples suggest that the VXs in /ko/-CONSTs are more independent to each other, morphosyntactically, than those in /a/-CONSTs. These morphosyntactic behaviors of the two constructions are crucially related to their semantics and pragmatics such that /ko/-CONSTs involve separate assertions of the actions denoted by each VX, whereas /a/-CONSTs contain just one assertion. In other words, the meaning of a sentence either in /a/-CONST, or in /ko/-CONST, always entails that 'NPsubj VX1' and 'NPsubj VX2'. However, in addition to such a general semantic contribution, VXs in /a/-CONSTs combine to collectively denote a single chain of action or event. This fact is very tricky to formally represent, but it can be indirectly illustrated by the distinctive negation potentials of the constructions. In the following examples, /a/-CONSTs allow only one negation over the whole construction, while the verbs in /ko/-CONSTs can be independently negated.[2]

(8) Negation of the /ko/-CONSTs

a. Tom-un pap-ul an-mek-ko mul-ul masi-ass-ta.
-NOM rice-ACC not-eat-and water-ACC drink-PAST-DEC

'Tom didn't eat rice but drank water.

b. Tom-un pap-ul mek-ko mul-ul an-masi-ass-ta.
-NOM rice-ACC eat-and water-ACC not-drink-PAST-DEC

'Tom ate rice but didn't drink water.

c. Tom-un pap-to an-mek-ko mul-to an-masi-ass-ta.
-NOM rice-too eat-and water-too not-drink-PAST-DEC

'Tom didn't eat rice nor drink water.

(9) Negation of the /a/-CONSTs

a. Tom-un chimtay-wie nup-a ca-ci aniha-n-ta.
-NOM bed -on lie sleep-not-PRS-DEC

'It is not the case that Tom is sleeping, lying on the bed.'

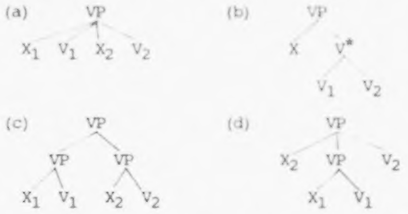
b. * Tom-un chimtay-wie nup-ci aniha-a ca-n-ta.
-NOM bed -on lie-not sleep-PRS-DEC

'Tom is sleeping, not lying on the bed.'

## 3. Internal structure of the constructions

In the above discussion, we have observed a number of morphosyntactic distinctions between /a/-CONST and /ko/-CONST. However, such distinctions may not necessarily indicate the different internal structures of the constructions. Given the semantic and pragmatic distinction between them, both constructions may still be assigned to essentially the same internal structure. For the multi-verb constructions, we may, in principle, have the following combinatorial potentials.

(10)



('Xn' in these structures indicates the arguments or modifiers of Vn.)

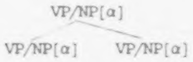
As illustrated in the above section, VXs can be independently modified by adverbials in both constructions, with modifiers of the VX2 (i.e. the second V-type category) intervening between the two VXs. This fact follows directly from the structures (10a) and (10c). (10a) is ruled out, however, on the basis of two basic assumptions that conditions on the ordering of sister constituents treat $V^o$ categories (i.e. word-rank Vs) identically, and that the head categories invariably occur phrase-finally.[3]

The same fact that the VXs in the construction can be interrupted by modifiers suggests that they are not cases of lexical compounding, as represented by '$V^*$' in (10b). The controversy over the lexical vs. phrasal status of the constructions in question will be further elaborated in section 5.

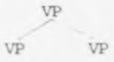
On the other hand, we cannot find any syntactic (and/or semantic) evidence that the /a/-CONSTs involve a hypotactic relation between the VXs: no VX can be appropriately analyzed to subcategorize for the other VX. In addition, given the verb-final nature of Korean phrases, it is quite natural that VPs always follow nonverbal sister phrases, explaining why there is no intervening material between the complement VP and the head V in typical hypotactic constructions such as periphrastic causatives. On this assumption, the intervening material between two VXs rules out (10d), too.

The paratactic structure in (10c) is, then, the only plausible candidate for both /a/-CONSTs and /ko/-CONSTs. Even though there is a requirement for the same object NP in the /a/-CONST, this fact may not necessarily follow from the structural difference between the two types of constructions. The requirement for the same object NP may be simply the consequence of the semantic or pragmatic requirement for the 'single assertion'. If we are to provide a purely syntactic account of such facts about the argument structures, we may assign distinctive structures directly to the two types of constructions, as in the following GPSG type representations.

(11) a. /a/-CONST



b. /ko/-CONST



Given such structures, the VPs in /a/-CONSTs will always have the same object NP. On the other hand, the foot feature 'SLASH [NP [α]]' can be freely instantiated in the structure (10b) so that the VPs in /ko/-CONSTs may have the same object NP, but not necessarily.

This purely syntactic account is, however, only apparently successful. That is because we have to posit both structures for the /a/-CONST, anyway, since the requirement for the same object NP is not relevant when the construction involves only IVs: i.e. (10a) for cases involving TV-type categories, (10b) for cases involving IV-type categories. What's more, the requirement of the 'single assertion' has to be independently motivated, since sharing the same object NP does not necessarily guarantee such a semantic effect. Therefore, it is much more natural to assume that both /a/-CONST and /ko/-CONST have the same syntactic configuration, i.e. VP-coordination, and that the requirement of the same argument NP is the consequence of the semantic requirement of the 'single assertion'. After all, actions involving separate 'patients' would be harder to construe to be a single assertion than actions involving a single 'patient'. As a so-called pro-drop language, Korean avoids two occurrences of the same object in the same clause. Then, the lack of independent overt object NPs in /a/-CONST seems to be accounted for as the result of an interaction between the single assertion requirement and the pro-drop nature of Korean. In fact, we may informally define the 'single assertion' as a constellation of properties which at least include the following:

i) actions involved in a single assertion cannot be independently negated.
ii) actions involved in a single assertion cannot have separate 'patients'
iii) actions involved in a single assertion must have the same tense.

From the above observations, we can conclude that the /ko/-CONST is simply a VP coordination, period, while the /a/-CONST a marked VP-coordination associated with special semantics, which is not obtained by the syntactic rules and the general semantic composition alone.

## 4. /a-ka/-CONST, parasitic on /a/-CONST

Since we have observed the general characteristics of /a/-CONSTs, let's move on to a special subtype of the construction, exemplified below

(12) a. apenim-i cip-ulo ttwi-a ka-(si)-ass-ta
-NOM house-to jump go-HON-PAST-DEC

'Father ran to the house.'

b. etten salam-i Mary-lul cap-a o-(si)-ass-ta
certain man-NOM -ACC hold come-HON-PAST-DEC

'Somebody arrested and brought Mary.'

The above sentences look like instances of the /a/-CONST discussed in the previous sections, except that no modifiers can intervene between the two VXs, and that the VX2 belongs to a small subset of verbs, i.e. the so-called verbs of 'coming and going', such as /ka/ 'go', /o/ 'come', and /tani/ 'come and go'. Thus this subtype of the /a/-CONST will be referred to as the /a-ka/-CONST, after the verb /ka/ 'go'.

First of all, two VXs are combined by the particle /-a/. Second, like /a/-CONSTs, only VX2 is marked in tense, while VX1 lacks any inflectional marking (i.e. tense, aspect, subject honorification). Third, the sentences contain a single assertion, rather than separate assertions. The English translations in (12) do not effectively express the concept of 'single assertion'. However the concept of single assertion is indirectly suggested by the fact that the VXs cannot be independently negated, as was with /a/-CONST:

(13) a. * Tom-i cip-ulo ttwi-ci aniha -a ka-ass-ta
-NOM house-to jump not go-PAST-DEC

'Tom went to the house, not running.'

b. * etten salam-i Mary-lul cap-ci aniha-a o-ass-ta
certain man-NOM -ACC hold not come-PAST-DEC

'Somebody came, not having arrested Mary.'

The whole construction can be collectively negated as follows:

(14) a. Tom-i cip-ulo ttwi-a ka-ci aniha-ass-ta
-NOM house-to jump go not-PAST-DEC

'Tom didn't run to the house.'

b. amuto Mary-lul cap-a o-ci aniha-ass-ta
anybody -ACC hold come not -PAST-DEC
'Nobody arrested and brought Mary.'

If one wants to make separate assertions involving 'coming/going' and 'not doing some action' at the same time, he has to use the /ko/-CONST, in which the particle /a/ of the VXs in (13) must be replaced by /ko/:

On the other hand, the semantics and pragmatics of this /a-ka/-CONST are significantly different from those of the simple /a/-CONST. In the discussion of /a/-CONST and /ko/-CONST, we have noted that both VXs are coordinated, semantically and syntactically, thus being predicated of the same subject. But in a sentence with the /a-ka/-CONST, the subject NP does not stand in the same relation to the two VXs, semantically: 'NP-subj VX1' is always entailed, but 'NP-subj VX2'--i.e. the subject NP's coming or going-- is not. As will be discussed shortly, however, because of the complicated pragmatics of 'coming/going', such a semantic fact about the construction has long been overlooked, and the delicate distinction between the /a-ka/-CONST and the /ko/-CONST has not been clearly captured.

The best way to convey this fact is by means of examples. Consider the following sentences:

(15) a. apenim-i cip-ulo ttwi-a ka-(si)-ass-ta
-NOM house-to jump go-HON-PAST-DEC

'Father ran to the house.'

b. etten salam-i Mary-lul cap-a o-(si)-ass-ta
certain man-NOM -ACC arrest come-HON-PAST-DEC

'Somebody forcedly brought Mary.'

Traditionally, it has been claimed, implicitly or explicitly (cf. Choi 1971, Yang 1978), that sentences like the above entail the subject NP's coming/going. Thus, for example, sentences (15a) and (15b) have been translated into 'Father went to the house, running' and 'Somebody came, forcedly bringing Mary', respectively. However I argue that the subject's coming/going is only pragmatically compatible with those sentences, but not semantically entailed by them.

Part of the confusion in the previous analyses seems to have derived from the lack of distinction between pragmatic compatibility and semantic entailment. Virtually all examples of the /a-ka/-CONST in the previous studies were pragmatically compatible with the subject NP's coming/going, as already seen in (15). If the subject NP's coming/going is merely part of the pragmatic implicature, however, either it would be cancellable in a proper context, or the /a-ka/-CONST would be compatible even with a situation in which the subject NP's coming/going is not involved. Now consider the following set of sentences which would make the point clear:

(16) John-i ku kay-lul kkul-e ka-ass-ta.
-NOM the dog-ACC pull go-PAST-DEC

'John went away with the dog, by pulling it' (from Yang (1978))
'John pulled the dog (away from the speaker).' (My translation)

(17) a. John-i ku khad-lul caki-cookulo kkul-e ka-ass-ta.
-NOM the card-ACC self-toward pull go-PAST-DEC

'John pulled the card toward him.'

b. John-i ku khad-lul caki-cookulo kkul-e o-ass-ta.
-NOM the card-ACC self-toward pull come-PAST-DEC

'John pulled the card toward him.'

Sentence (16) and its translation are from Yang (1978:229), and his account of the sentence explicitly involves the subject NP's going. In fact, he claims that in sentence (16), JOHN's going is 'the primary action', and pulling a dog is 'the secondary action'. However, in my examples in (17) which have exactly the same construction as (16), the subject NP's coming/going is not part of the meaning at all. On the contrary, it should be noted that sentences (17a & b) have exactly the same translation except the change of the deictic center, which I do not know how to translate into English. The deictic center of (17a) is on the speaker, while that of (17b) is on the subject of the sentence, JOHN. Sentences like (17), then, clearly show that the subject's coming/going is only pragmatically implied but not entailed by the /a-ka/-CONST.

I will not discuss in detail the pragmatics of the verbs of coming/going in this paper. It is not because the pragmatics of such verbs is not worth investigating, but because I believe that whatever pragmatics such verbs have, they will be transparently transferred to the /a-ka/-CONST. For further discussion of the pragmatics of such verbs, refer to K.D. Lee (1978) and references cited there.

As for the interpretation of the /a-ka/-CONST, it would suffice to say that verbs of coming/going indicate a movement toward or away from the deictic center, respectively. Thus, the whole construction will be interpreted, in general, to express a movement denoted by the VX1, toward or away from the deictic center. In case of transitive VX1, the whole construction will therefore entail the locational change of the object NP, which may or may not imply the locational change of the subject. To be more explicit, the interpretation of the whole sentence can be schematized as follows: (the parenthetical remarks are relevant only in case of transitive VX1.)

(18) 'VX1-a VX2' ===> [move (the object NPi) toward/away-from the deictic center by $VX_1$-ing ($it_i$)]

On the other hand, verbs of coming/going imply not only spatial but also temporal movements. Therefore, when the VX1 in the /a-ka/-CONST has nothing to do with a spatial movement, the whole construction is interpreted to express an action denoted by the VX1, in progress toward or away from the temporal deictic center, as shown in (19):

(19) a. nal-i palk-a o-ass-ta
day-NOM bright-a come-PAST-DEC

'It became brighter and brighter.'

b. motu-ka nulk-a ka-n-ta
all-NOM old go-PRS-DEC

Everybody goes on getting old.'

c. John-i pap-ul elchu mek-e ka-n-ta.
-NOM rice-ACC almost eat go-PRS-DEC

John is eating rice, but did not eat it up yet.'

Once we understand the semantics and pragmatics of the /a-ka/-CONST, it becomes clear that the construction does not contain separate assertions but one assertion: the VX2, i.e. a member of verbs of coming and going, does not have its own verbal semantics, but only its deictic force is superimposed onto the meaning of the VX1, as described above.

Notice here that the semantic relation between the VX1 and VX2 is not the kind of relation found in VP-coordinations (e.g. the /a/-CONST or the /ko/-CONST). In the /a-ka/-CONST, the VX2, i.e. the verb of coming/going, appears to be a 'semantic function' which can take any non-deictic VP as its 'argument' and give out a deictic VP. In other words, the relation between VX1 and VX2 is hypotactic rather than paratactic. The lack of intervening modifier before VX2 also suggests the hypotactic relation between them. As already mentioned in section 2, given the verb-final nature of Korean phrases, it is quite natural that VPs always follow nonverbal phrases, explaining why there is no intervening material between the complement VP and the head V in typical hypotactic constructions. As will be discussed in the next section, the branching of a head verb and its complement VP is also supported by the fact that the complement VP can serve as an antecedent of a VP-anaphoric expression /kulekhe ha/ (i.e. DO SO in English).

The above description of /a-ka/-CONST can provide an insightful solution to the traditional puzzle about the distinctions between /ko/-CONST and /a-ka/-CONST. The puzzle concerns a systematic difference in cooccurrence restrictions on VX1 between the two types of constructions, when the VX2 is a verb of coming/going: certain verbs occur only in one type of construction, but not in the other, as in the following examples from Choi (1971:283) and Yang (1978:230): (The grammatical judgments are not mine but theirs, with which I do not agree.)

(20) a. ki-a ka-n-ta
crawl go-PRS-DEC

Crawl away'

b. * ki-ko ka-n-ta

(21) a. ket-a ka-ass-ta
walk go-PAST-DEC

walked away.'

b. * ket-ko ka-ass-ta

(22) a. * kicha-lul tha-a ka-n-ta
train-ACC ride go-PRS-DEC

b. kicha-lul tha-ko ka-n-ta
train-ACC ride go-PRS-DEC
'go by train'

(23) a. * ciphangi-lul ciph-a ka-n-ta
walking-stick-ACC use go-PRS-DEC

b. ciphangi-lul ciph-ko ka-n-ta
walking-stick-ACC use go-PRS-DEC

'go, using a walking stick'

Choi (1971), who made the first attempt to investigate and classify the multi-verb constructions in Korean, observed the above cooccurrence restrictions, but could not give a satisfactory account. Later, Yang (1978:230) attributed such cooccurrence restrictions to the transitivity of the VX1. In the examples given above, /ki/ 'crawl', and /ket/ 'walk' are intransitive, while /tha/ 'ride' and /ciph/ 'use' are transitive. The apparent restriction is that intransitive VX1 is not compatible with the /ko/-CONST with a verb of coming/going as its VX2, while transitive VX1 is not compatible with the /a-ka/-CONST. However, Yang (1978) himself provides a counterexample to his own generalization, since a transitive VX1 occurs in /a-ka/-CONST, as in (16) above. On the other hand, our discussion of the construction does not make any reference to the transitivity of the VX1.

Before we try to give another account of the cooccurrence restrictions exhibited above, it should be noted that their understanding of the /a-ka/-CONST was different from mine, in that they take the construction to express 'the manner (or method) of going/coming', with the VX1 denoting the method taken. Obviously, such a characterization of the constructions cannot be supported, as shown in the above discussion, nor be taken as an account of the cooccurrence restrictions.

In fact, (20b) and (21b) are not ungrammatical. In a proper context, they will be interpreted as 'crawled and (then) went' and 'walked and (then) went', respectively, as expected from our characterization of the /ko/-CONST as a simple VP coordination involving separate assertions. The sequentiality in the actions involved will directly follow from such a very general pragmatic principle as Grician Maxims of Manner.

As for (22a) and (23a), they can never mean the subject's going by doing some action on the object NP. On the contrary, given our description of the /a-ka/-CONST, they can only mean moving a train (away from the deictic center) by riding it and moving a walking stick (away from the deictic center) by using it, respectively: what is moved, then, is a train or a walking stick. It is unlikely that anyone would want to express such meanings, and certainly they are not the intended meanings such as going by train and going, using a walking stick. Therefore all the problems plaguing previous studies turn out to be a matter of pragmatics which is not specific to the construction in question. Given our analysis, there is no syntactic restriction on the VX1 in the /a-ka/-CONST.

## 5. AUX-construction

There is another class of multi-verb constructions which have been traditionally analyzed as taking as their VX2 the so-called auxiliary verbs. In spite of their morphosyntactic similarities to the /a-ka/-CONST, Choi

(1971) distinguishes them from the /a-ka/-CONST, viewing the former as syntactic phrases and the latter as lexical compounds. In the following discussion, this construction illustrated in (24-26) will be referred to as AUX-CONST, and the subclass of verbs occurring in VX2 as AUX.

It should be noted, however, that I will not make any theoretical commitment to the traditional label AUX, except that it is a syntactically motivated subcategory of verbs. After all, the category of AUX may be language-specific, motivated only by reference to a certain set of syntactic operations (e.g. Subj-Aux-Inversion in English). However, the set of syntactic operations used to establish the category of AUX in one language may not be available in other languages. Therefore, what I call AUX in Korean does not directly correspond to the category of AUX motivated in many European languages.

(24) a. Tom-i ka-a peli-ass-ta
-NOM go abandon-PAST-DEC

'Tom went (already).'

b. Tom-i ppang-ul mek-a peli-ass-ta
-NOM bread-ACC eat abandon-PAST-DEC

'Tom ate the bread (already).'

(25) a. Tom-i ka-a po-ass-ta
-NOM go see-PAST-DEC

'Tom went (as a trial).'

b. Tom-i ppang-ul mek-a po-ass-ta
-NOM bread-ACC eat see-PAST-DEC

'Tom ate the bread (as a trial)/ Tom tried and ate the bread.'

(26) a. Tom-i ka-a chu-ass-ta
-NOM go give-PAST-DEC

'Tom went (for somebody salient in the discourse).'

b. Tom-i ppang-ul mek-a chu-ass-ta
-NOM bread-ACC eat give-PAST-DEC

'Tom ate the bread (for somebody salient in the discourse)'

Based on our previous discussion about the /a/-CONST, /ko/-CONST, and /a-ka/-CONST, we will describe the characteristics of the AUX-CONST only briefly. Basically, their morphosyntactic characteristics are exactly the same as the /a-ka/-CONST, except for their negation potentials:

i) The particle /-a/ is used to combine two VXs with no morphosyntactic cooccurrence restrictions on VX1,
ii) no modifiers intervene between the two VXs,
iii) only VX2 is marked for tense, but both VXs are interpreted to share

the same tense,

iv) the relation between VXs is hypotactic rather than paratactic, so that the head V (i.e. AUX) subcategorizes for a complement VP.

Unlike the /a/-CONST or /a-ka/-CONST, however, the VP-complement can be independently negated, as in (27). I will give only one example of negation, but the same pattern applies to all the other examples of AUX-CONST.

(27) ku ppang-ul mek-ci mal-a chu-o
the bread-ACC eat not give-IMP

Please, don't eat the bread.'

The branching of the head V and its complement VP is supported by the lack of intervening modifiers between two VXs. The branching is also supported by the following examples, in which the complement VP serves as an antecedent of a VP-anaphoric expression /kulekhe ha/ (i.e. DO SC in English).

(28) a. John-un [$_{VP}$ sukce-lul kkutnay ]-a peli-ass-ta
-TM homework-ACC finish abandon-PAST-DEC

John has already finished the homework.'

b. na-do [$_{VP}$ kulekhe ha ]-a peli-ass-ta
I-too so do abandon-PAST-DEC

I have already done so, too.'

The VP-anaphor /kulekhe ha/ in (28b) receives the same interpretation as that of the complement VP of AUX-CONST in (28a). This VP-anaphoric pattern is found not only in AUX-CONST, but also in another hypotactic construction, i.e. /a-ka/-CONST, as illustrated in (29).

(29) a. John-un [$_{VP}$ konghwatang-ul ciciha ]-a o-ass-ta
-TM republican-ACC support come-PAST-DEC

John has supported the republican party so far.'

b. Mary-to [$_{VP}$ kulekhe ha ]-a o-ass-ta
-TM so do come-PAST-DEC

John has done so, so far.'

This VP-anaphoric possibility not only indicates the internal constituency of the hypotactic constructions, but also helps resolve the controversy over the morphosyntactic status of the constructions, as will be discussed in the next section.

Another short comment on the subcategory of AUX is in order. As in the /a-ka/-CONST, the head Vs in the AUX-CONST (i.e. /peli/ 'abandon', /po/ 'see', /cu/ 'give', etc) can be independently used as simple transitive verbs. If the AUX-CONST involves a simple VP coordination as in the /ko/-CONST or /a/-CONST, we expect the object NPs in (24b), (25b), and (26b) to be shared by both VXs. However, as implied by the corresponding translations, that is not the case.

The semantic type of the head V (i.e. AUX) in AUX-CONST is the same as that of English AUX, in that it takes the preceding VP as its arguments: its semantic contribution is, in a sense, similar to that of VP adverbials, as represented into a quasi-predicate logic as below:

(30) a. VP-a peli ==> [peli'(VP')] ‘already VP'
abandon

b. VP-a po ==> [po'(VP')] ‘VP, as a trial'
see

c. VP-a cu ==> [cu'(VP')] ‘VP for someone salient in the discourse'
give

As noted in the previous section, the deictic force of the verbs of coming/going is transparently carried over to the /a-ka/-CONST. However the semantics/pragmatics of AUXs in AUX-CONST is not related to that of their independently used homonyms. There might be some diachronic account of each pair of homonyms. Synchronically, however, it seems impossible to establish a systematic pattern of correlation between such homonym pairs. In addition to the difference in their meaning, AUXs form a subclass of verbs which subcategorize for a VP, whereas their independently used homonyms are simple transitive verbs. Thus, I will assume that they are indeed different lexemes.

## 6. Idioms or syntactic constructions ?

Up to this point, I have compared and contrasted four different multi-verb constructions, with an implicit assumption that they are indeed syntactic phrases. On the other hand, most previous analyses have treated them as verbal compounds, that is, as if they are lexical units (i.e. word rank categories). However, there is reason to believe that they are not word rank categories.

First, independent modification of VXs, and intervening modifiers between VXs indicate that the two paratactic constructions (i.e. /ko/-CONST and /a/-CONST) are indeed VPs. Second, as for the hypotactic constructions (i.e. /a-ka/-CONST and AUX-CONST), no adverbial modifiers intervene between the complement VP and the head V. But their behavior with respect to a VP-anaphoric expression indicates that they are not lexical units. That is because lexical items are anaphoric islands.

In a now classic paper, Postal (1969) proposed the following constraint on coreference between anaphors and parts of lexical items:

(31) Lexical items are anaphoric islands with respect to outbound anaphora involving the pro verb phrase do so. (= Postal's Constraint E)

This constraint is illustrated below in (32), using Postal's annotation of judgment:

(32) *Max wanted to strangle the monster, but Peter wanted to do so with poison. (strangle = ‘kill by choking')

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(33) a. People who support McCarthy sometimes deny they do so.
b. *McCarthyites sometimes deny they do so.

These examples are evidence that pro VP anaphor cannot be coreferential with material which is ‘part of the meaning of’ monomorphemic items (e.g. (32)) or complex lexical items (e.g. (33b)). Thus, assuming that lexical items (regardless of their internal complexity) are anaphoric islands, one must conclude that the multi-verb constructions in Korean are not lexical units, but syntactic phrases.

Still another piece of evidence that the multi-verb constructions are not lexical units comes from the distribution of the plural marker in Korean. It is well known that the plural marker /tul/ in Korean can float from the subject NP to any syntactic units in a sentence, like ‘floated quantifiers’ in English. This floated plural marker can occur even between the VX1 and VX2 of the multi-verb constructions, as in (34):

(34) a. kutul-un pap-ul mek-ko-tul ka-ass-ta
they -TM rice-ACC eat- PL go-PAST-DEC

‘They ate rice and went.’

b. kutul-un koki-lul cup-a-tul mek-ass-ta
they -TM fish-ACC bake PL eat-PAST-DEC

‘They baked and ate fish.’

c. kutul-un koki-lul cap-a-tul o-ass-ta
they -TM fish-ACC catch PL come-PAST-DEC

‘They caught fish and brought it.’

d. kutul-un koki-lul cap-a-tul peli-ass-ta
they -TM fish-ACC catch PL abandon-PAST-DEC

‘They have already caught the fish.’

If the distribution of the floated plural marker is to be accounted for within syntax, and if we further assume that syntax is blind to the internal structures of lexical units, one must conclude that the multi-verb constructions are indeed syntactic phrases.

Therefore, the traditional label ‘compounding’ needs to be taken with a grain of salt. In fact, most previous studies of such constructions did not posit a theoretical distinction between the lexical component and the syntactic component of grammar. What they implicitly claim by classifying some multi-verb constructions as lexical compounding is simply that the properties associated with the construction is ‘idiomatic’. Yes, they are idiomatic in the sense that not all the properties of such constructions directly follow from their syntactic structures and general semantic/pragmatic principles: some properties must be treated as being associated with templates over representations, rather than with individual representations. However such negative characterization of the idiomaticity alone does not help determine whether a complex expression is an idiom or a syntactic construction.

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Obviously, previous analyses did not bother to draw a clear line between idioms and syntactic constructions, as suggested in the following paragraph from Yang (197:227): 'on one end of the scale falls the case in which unit verbs are so closely fused that they form an organic whole, and on the other end falls the case in which unit verbs are each identifiable as unit verbs of a type of verbal conjunction'.

This lack of division between syntax and lexicon is not a trend unique to studies of Korean. As noted by Fillmore, Kay & O'Connor (1988; hereafter FKO) and Zwicky (1989b) among others, most of the current frameworks for language description do not make room for the proper description of constructions. Even FKO do not make any significant distinction between idioms and syntactic constructions. Thus their descriptions of a construction may make a direct reference to lexical, semantic, and pragmatic information, not to mention syntactic information. Even in the description of syntactic information, it is not confined to a local tree consisting of mother and her daughters, but may span wider range of sentential tree. According to them, 'lexical items, being mentionable in syntactic constructions, may be viewed, in many cases at least, as constructions themselves'.

But Zwicky (1989d) convincingly argues that there are (at least) theoretical reasons for distinguishing lexicon from syntax. He agrees with FKO that constructions may be idiomatic in a sense that a large construction may specify a 'construction specific' semantic/pragmatics. However he argues that the idiomaticity may derive from the lexicon or from the syntax: i.e. lexical idiosyncracies must be distinguished from syntactic idiosyncrasies.

What is needed for the division of syntax and lexicon is, then, some restrictive guiding principles that determine the kinds of information relevant to syntactic description. One of such principles is the 'Principle of Morphology-Free Syntax' in Zwicky's program of modular grammar such that 'syntactic rules are blind to strictly morphological information' (see Zwicky (1989 a,b,c,d) for further discussion). Unless we want to abandon virtually all the component-separation assumptions in most modern syntactic theories, syntactic rules (or descriptions of syntactic constructions) must not make reference to 'item-specific' content such as internal structures or derivational history of a lexical unit.

Now, the question I have raised at the beginning of this section (i.e. a lexical unit or a syntactic phrase?) is shifted to another question, 'idioms or syntactic constructions?' And the answer to this question crucially depends on whether all the description of the multi-verb constructions can be made by only syntactically relevant information under the principle of morphology-free syntax.

## 6.1. Formal characterization of each construction

Let's consider how the multi-verb constructions discussed so far figure in such a restrictive view of grammar. A proper description of a complex expression must involve information about constituency and linear ordering, various properties of the constituents (e.g (sub)category membership, ranks (or Bar levels)), grammatical functions, and construction-specific semantics/pragmatics. Based on the discussions in the previous sections, we can now summarize the kinds of information required for the description of the multi-verb constructions, as follows.

CONSTITUENCY, LINEAR ORDERING : /ko/-CONST and /a/-CONST have a paratactic construction, whereas the others (i.e. /a-ka/-CONST, AUX-CONST) have a hypotactic construction with VX2 as its head. The two paratactic constructions combines VPs, whereas the hypotactic constructions involves a complement VP preceding a head V.

RESTRICTIONS ON THE VXs : the paratactic constructions impose no special constraint on the conjunct VPs, whereas the hypotactic constructions require the head verb to belong a specific subclass of verbs: the head V of /a-ka/-CONST must be a verb of coming/going, and the head V of AUX-CONST an AUX.

SEMANTICS/PRAGMATICS : /ko/-CONST is simply a conjunction, syntactically and semantically, as well. /a/-CONST is specified for single assertion in addition to the semantics for conjunction. The hypotactic constructions requires no stipulated semantic principles: the head V serves as a semantic function taking the complement VP as its argument.

### 6.2. Apparent syncategorematicity of the particles

All the above properties of the multi-verb constructions can be described in the syntactic component without making reference to item-specific content. However, there is still one remaining problem which defies an easy solution: i.e. the treatment of particles like /-ko/ and /-a/ which attach to the end of VX1s and serve as the obligatory marks of the syntactic constructions. A syntactic analysis of the multi-verb constructions cannot be complete without making it explicit how a syntactic component makes reference to these particles.

One of the most obvious analytical options is to treat them syncategorematically, thus allowing syntactic rules to directly refer to the specific morpheme /ko/ or /a/ as such, without assigning them to any lexical or grammatical categories. This practice has actually been made in most analyses of constructions in Korean, and in many other languages, as well. For example, as noted by Pullum (1982), Chomsky (1957) formulates syntactic rules which directly introduce be, by, do, en, have, ing, not, n't, to, etc. syncategorematically. Another recent example is FKO's position that 'lexical items, being mentionable in syntactic constructions, may be viewed...as constructions themselves'.

However, such a syncategorimatic treatment of lexical items is undesirable, since it makes syntactic constructions just as item-specific as any idiom, rejecting a theoretical distinction between lexicon and syntax. Certainly, a restrictive framework including the Principle of Morphology-Free Syntax will not allow such an analytical option. For much the same reason, they cannot be treated as derivational affixes, either.

Then, what other analytical options are available? Before we go on, it should be noted that the traditional label 'particle' is a descriptive label, rather than a theoretical construct. For convenience, however, I will keep using the term particle as a descriptive label, without attributing any theoretical status to it.

Among other analytical options, we may treat them (i) as inflectional suffixes, (ii) as postpositions, (ii) as phrasal affixes, or (iii) as bound words.[4] Inflectional affixes serve as marks of syntactic constructions in the same way adpositions do. What one language does with inflections, another does with adpositions. Even within a single language, adpositions can occur in alternation with inflections. Both inflectional affixes and particle lexemes are treated as the realization of grammatical features.

Phrasal affixes (e.g. the English possessive 's) are very much like inflectional affixes. Thus, they are also treated as the realization of grammatical features which are distributed in the syntax via feature passing conventions. However, unlike inflectional affixes, phrasal affixes are realized, in most case, on the leftmost or rightmost member of a constituent.

Bound words behave just like independent words syntactically but, phonologically, they are dependent on adjacent words. (see Zwicky 1989 (a,b,c), for a more detailed discussion)

In principle, all four options mentioned above are workable, as long as one can motivate their categorial/grammatical features which syntax can make reference to. In the following discussion, I will pursue, without argument, an option of treating the particles as inflectional affixes (i.e. realizations of grammatical features distributed by syntactic rules). This inflectional analysis can, I believe, be modified to be compatible to other analytical options if there is evidence to the contrary.

Assuming their morphological status as inflectional affixes, we have to determine what grammatical features they realize. This is not an easy task. On one hand, /ko/ and /a/ seem to serve as a mark of conjunction in the two paratactic constructions (i.e. /ko/-CONST and /a/-CONST). On the other hand, particle /a/ can also serve as a mark of VP-complement in the two paratactic constructions (i.e. /a-ka/-CONST and AUX-CONST). In addition, it is not clear whether the particles make any consistent meaning contribution in their occurrences in different constructions. The obvious question is, then, what the grammatical category of the particle /a/ is: is it a conjunction or a VP-complementizer, or simply a `shape property' which can be referred to by several syntactic rules.

Before we answer this question, it should be noted that it is not unique to Korean morphosyntax for a particle (or a grammatical category) to serve as marks of several syntactic functions. For example, the English PRP (present participle) is used both in progressives VPs (e.g., They were playing the piano) and in postnominal VP modifiers (e.g., Anyone having a hat on will be arrested); similarly, the English PSP (past participle) is used both in passive VPs (e.g., They were praised by everyone) and in perfect VPs (e.g., They have praised everyone). (for more similar examples, see Zwicky (1989a)).

Thus, strange as it may look initially, there is nothing special for Korean particle /a/ to serve as a mark of different constructions. In addition, as Zwicky (1989a,c) notes, such a particle (or `particlexeme' in his term) `might have a characteristic semantics of its own, but this is only a default and can be overridden by the semantics associated with the construction'. Accordingly, it is not always possible to find a `meaning' for such a particle in all its occurrences. After all, particles or inflectional affixes are not like ordinary lexemes in that they are specialized as a grammatical mark (or 'as a counter in the game of syntax', as Zwicky (1989c) puts it).

Bearing such complex properties of particles in mind, I will assume that their default function is to be used 'as a counter in the game of syntax', with no inherent lexical semantics. I further propose that the grammatical category of these particles is VFORM. The subcategories of VFORM may also realize some other grammatical categories (e.g. case, number, tense, aspect, polarity, etc), or they may be simply part of certain 'shape properties' to serve as a mark of particular constructions.

This apparently innocent claim implicitly embodies an important metatheoretical assumption to the effect that there is a universal morphosyntactic feature set and that such features as [SERIAL] and [CONJ] are just some items from the universal set that the grammar of a particular language makes available for certain purposes. Such features as [SERIAL] and [CONJ] are indeed good candidates for the members of a universal feature set, since all languages, as far as we know, make use of coordinate constructions, and the so-called serial verb constructions are found in a very wide range of languages, as witnessed by this mini-conference on serial verbs.[5] The /a/-CONST and /a-ka/-CONST are very similar to typical serial verb constructions in many respects (e.g. the requirement of same external arguments and the semantics of single assertion).

It happens to be the case that these features are cashed out by inflectional affixes in Korean, but they can, in principle, be associated with an intonation contour, or even with a zero in other languages, (just as a yes-no question is marked by an intonation contour in one language but by a particle or inflection in other languages).

## 7. Syntax of the Multi-verb constructions

Now that the feature specifications of the particles are motivated, I will provide morphosyntactic rules and operations whereby a particular FORM value is distributed and realized, using the formalism in Gazdar et. al. (1985) and in Zwicky (1985).

To account for a Korean fragment including the multi-verb constructions, the following PS rules[6] need to be posited. For ease of exposition, I will not provide rules for the case marking of NPs and the double subject construction. [VFORM, SERIAL] will be shortened as [SERIAL], in addition to some conventional abbreviations.

Head Features and Feature values

VFORM — { SERIAL, BSE, FIN,... }

PS Rules

S —> NP, VP
VP —> H[CONJ], H
VP —> H[SERIAL], H

VP —> VP[SERIAL], $H^1$[3]     V[3] —> /ka/ `go', /o/ `come',
/tani/ `come and go'

VP —> VP[SERIAL], $H^1$[4]     V[4] —> /peli/ `abandon', /po/ `see',
/cu/ `give', /noh/ `put'

FCR (Feature Cooccurrence Restriction)

FCR 1: [SERIAL] > [BSE]

FSD (Feature Specification Default)

FSD 1: ~[SERIAL]
FSD 2: ~[CONJ]

Having these rules in the syntax, such particles as /ko/ and /a/ are introduced as a morphosyntactic feature(i.e. VFORM) by `government' or directly by PS rules. This feature VFORM then are eventually passed down to the head verb by a feature trickling convention (e.g. the Head Feature Convention in GPSG). The morphosyntactic representation of a verb will then be spelled out in the lexical component.

For the sake of completeness, I provide inflectional rules for the VFORMs in (35-36), using the formalism in Zwicky (1985) in which Realization Rules (RRs) and morphological operations (OPs) are distinguished.

(35) RR 32: In the context of [V:+, Bar:0],
[FORM:SERIAL] is realized by operation 32.

(36) OP 32: Suffix /a/ in the second inflectional slot.

In this account, it is assumed that all inflectional categories are assigned inflectional slots whose number is determined by the number of inflections that can occur on the stem. The exact slot number that the realization of a particular inflection will occupy depends on the interaction among various inflectional categories. Part of the interaction among them can be accounted for partially via Feature Cooccurrence Restrictions in syntax. For example. the FCR 1: SERIAL > [BSE] will account for the lack of tense/aspect when [VFORM:SERIAL] is realized. The interaction among morphosyntactic features can also be resolved by some `slot competition' statement in the inflectional component, the full account of which goes beyond the scope of this paper. (for a discussion of slot competition, see Zwicky (1985, 1988, 1989a) and references cited there)

## 8. Closing statement

To summarize the main points in this paper, I have proposed a fine classification of multi-verb constructions involving such particles as /a/ and /ko/, and a syntactic analysis of them within a restrictive grammar. During the discussion of the constructions, I provided a semanticopragmatic account of a traditional puzzle concerning the distinction between /ko/-CONST and /a/-CONST (more specifically /a-ka/-CONST). The solution to the traditional puzzle based on my argument that the subject's coming/going in /a-ka/-CONST is not a semantic entailment but a pragmatic implicature. Then I discussed another controversy over the morphosyntactic status of the constructions, and claimed that they are indeed syntactic phrases, based on the lack of intervening modifiers on one hand, and on their VP-anaphoric potential, on the other. Finally, to complete the syntactic analysis of the constructions, I took an analytical option of treating the particles as inflections. And their morphosyntactic feature specifications (e.g. [VFORM:SERIAL]) are motivated on the basis of general behavior of particlexemes.

The above morphosyntactic analysis is, admittedly, only sketch. After all, the success of any syntactic analysis will crucially depend on whether it can be matched with an appropriate analysis in the lexical component. However, the main thrust of this paper is to entertain a possible analysis of the multi-verb constructions within a restrictive grammar including the Principle of Morphology-Free Syntax, rather than to provide any definitive answer to the realization of grammatical features in lexical component.

There are some other related multi-verb construction which I failed to cover in this paper. Those other multi-verb constructions are also marked by particles like /ke/ and /ci/, posing questions similar to that raised in this paper. A more refined syntactic account of the multi-verb constructions in general will be made possible only if we expand our database to all the nominal and verbal postpositions serving various morphosyntactic functions.

## NOTE

*This paper was originally written for an independent study with Prof. Arnold M. Zwicky at OSU in Autumn Quarter, 1988. I thank Prof. Zwicky for helpful comments. I also thank Prof. David R. Dowty who first drew my attention to serial verbs. I also owe thanks to Prof. Brian D. Joseph for his encouragement. Of course, I assume sole responsibility for the content of the present paper.

1. Transcriptions of Korean words in the text are within slashes (i.e. / /) and the following abbreviations are used in the gloss: NOM: Nominative, ACC: Accusative, DEC: Declarative, IMP: Imperative, PRS: Present tense, PAST: Past tense, TM: Topic Marker, PL: Plural, HON: Honorific

2. There are two means of negation, i.e. lexical negation by a prefix /an/, and periphrastic negation /-ci aniha/. The two negation differ in their scope properties: in general, the periphrastic negation has the preceding VP as its scope, whereas the lexical negation has the following verb as its scope.

3. Korean allows a great degree of freedom in the ordering of sister constituents, except that the head must invariably occur at the phrase-final position. Thus it is often claimed to be a non-configurational language. I will not take any definite stance about the issue of configurationality. I believe, however, that such a notion as 'locality', represented by local constituent structures, must be captured somewhere in the grammar in order to account for some structure-dependent phenomena (e.g. the domain of anaphoric binding).

4. See Nevis (1985) and Zwicky (1985b, 1989d), for a taxonomy of 'little words'.

5. This statement that such morphosyntactic features are realized by inflectional affixes need not be understood from the view point of 'morpheme-based' morphology.

6. Zwicky (1987) claims that there is an instance of the serial verb construction even in English, i.e. the so-called 'GO-verb' construction.

7. To avoid unnecessary complications, I will provide syntactic rules in the traditional PS rule format, instead of the ID rules and LP statements in Gazdar et. al. (1985)

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# On Serial Verbs in Mandarin Chinese: VV Compounds and Co-verbial Phrases

Claire Hsun-huei Chang
University of Hawaii

## 1. Introduction

For a linguistic theory that includes the concept of a universal grammar as a basic assumption, variation among typologically different languages demands an explanation. Recently, some linguists adopting the theory of Government & Binding (GB) or its related theories as their frameworks have sought to formulate 'parameters' to account for such typological differences among languages.

One of the remarkable differences among languages is the existence or absence of serial verb constructions (SVCs), and this distinction affords a testing ground for the validity of such claimed parameters. Languages, such as Yoruba, Sranan (Baker 1989, Sebba 1987) differ from languages such as English and French in allowing SVCs. Baker (1989) proposed a Generalized Serialization Parameter to capture this difference. He proposed that verbs in SVCs are heads and form a double-headed construction. Verbs in a SVC are able to theta-mark an internal argument, which is their shared object. By allowing a double-headed construction, principles already existing in the theory, such as the Projection Principle and the Theta Criterion, can then explain limitations of the serialization of verbs, the linear order of the component verbs, and the position of their NPs.

We agree in principle with Baker's definition of a narrow scope SVCs, which excludes coordinations, embedded clauses, and small clause predicates. However, we disagree with his treating SVCs as a purely syntactic phenomenon involving nothing but a shared object. In stead, we propose an analysis in which syntax (constituent structure), semantics (shared reference), thematic structure (lexical semantics of predicates as in Jackendoff 1972, 1987), and conceptual structure (Principle of Temporal Sequence as in Tai 1985) constitute independent principles in the grammar of Mandarin Chinese that properly describe and explain its SVCs. We will provide a precise definition for SVCs in Mandarin Chinese and try to rectify Baker's account of SVCs by going beyond syntax. We propose temporal sequence and shared reference as two important constraints for the serialization of verbs in Mandarin. These two important constraints jointly distinguish the SVCs from coordinate construction, which is a seemingly similar structure to SVCs and has been mistakenly included in SVCs (Li & Thompson 1981). We address the issue of compounding in Mandarin Chinese, which is an important SVC (cf. Sebba 1987) but is totally ignored in Baker's account. We will explore the restrictions on compound formation, which involve thematic structure and constituent structure. Compounding in Mandarin poses a potential problem for Baker's double-headed analysis of SVCs, which allows verbal inflection to occur in both verbs. The inflectional morphology as it involves the placement of perfective aspect marker -le in Mandarin indicates otherwise. That is, there is only one -le in each VV compound and each SVC.

This paper is organized as follows: section 2 defines SVCs in terms of the two important constraints of the Principle of Temporal Sequence and shared reference. Section 3 proposes a possible approach for V-V compound formation in Mandarin Chinese based on thematic structures. Section 4 examines co-verbial phrases, which can be viewed as a deviant form of SVCs. Section 5 investigates the placement of -le in terms of the thematic structure of verbs. Section 6 concludes the paper.

## 2. Definition of SVC

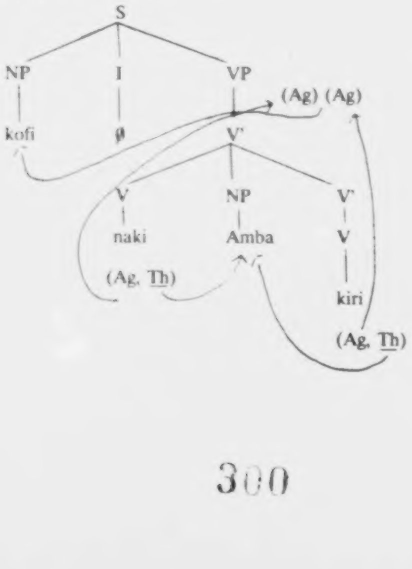
In this section, we will briefly summarize Baker's (1989) account of SVCs in African languages and offer a precise definition of SVCs in Mandarin Chinese.

Serial verb construction, generally speaking, is defined as a surface string of verbs or verb-like or verb phrase-like items which occur within what appears to be a single clause (Baker 1989, Sebba 1987). Usually, there is only one tense/aspect specification for the whole chain of verbs, and the verbs also have a single structural subject and share logical object (Baker 1989). Based on African languages, Baker eliminates structures of coordinations, embedded clauses, and small clause predicates from the possible domain of SVCs. He proposes that a SVC is a double-headed structure, in which two heads (i.e. verbs) share an internal argument, that is, object. The following example (1), followed by its tree structure (2), is what Baker claimed to be a genuine SVC.

(1) Kofi naki Amba kiri.
Kofi hit Amba kill

'Kofi struck Amba dead.'

(2) Tree strucutre of sentence (1)



Baker claimed that both verbs are heads and both project to the higher level. VP and the higher V' are projections of both verbs. The crucial feature of SVCs, according to Baker, is the 'shared object'. In sentence (1), the verbs naki 'hit' and kiri 'kill' assign a theme role to Amba, which is the shared object of both of these two verbs.

### 2.1. Previous analyses of SVCs in Mandarin

Discussions on SVCs in Mandarin Chinese have been rather sporadic. The existing analyses (Li & Thompson 1981, Tsao 1986, Chu 1983) belong to functional approaches and do not give explicit definitions, not to mention capturing important constraints of the serialization of verbs. Li & Thompson and others consider SVCs as having a syntactic strucutre of (NP) V (NP) (NP) V (NP). They recognized four types: (1) two separate events, which are further divided into 'consecutive', 'purpose', 'alternating', and 'circumstance'', (2) one verb phrase is the direct object or the subject of the other verb, (3) pivotal construction, (4) descriptive clause. As a result, the syntactic structure for SVCs, as given, includes all kinds of irrelevant structures as SVCs but leaves out relevant structures as non-SVCs. But as we mentioned in the introduction, genuine SVCs exclude coordinations, embedded clauses, and small clause predicates. Immediately, some of the SVCs in type 1 (i.e., coordinations) and all of those in type 2 (i.e., embedded clause) and type 4 (i.e., small clause predicates) must be excluded from SVCs. Li & Thompson indicate that various components of the meaning of the verb determine the type of interpretation accorded to the entire serial verb construction (Li & Thompson 1981: 621) and state that SVCs are to express one overall event or state of affairs. It seems vague as well as vacuous to give a semantic definition of the relation between the VPs based on the meanings of the verbs. And unfortunately, the definition of an overall event is not clear, though the intuition is correct. Li & Thompson's intuition can be stated precisely within a vigorous treatment of SVCs, which is what we will attempt to do now.

Before our discussion of SVCs in Mandarin, a word of definition is in order. SVCs in Mandarin are defined as structures in which verbs are in a series and share a common NP. Serialization of verbs in SVCs is constrained temporally, that is, the verbs in series hold a temporal sequence relationship. The shared common NP denotes a shared reference. SVCs have a structure of [NP [$_{vp}$ V NP V]] or [NP [$_{vp}$ V V NP]]. These two types of SVCs are genuine SVCs in a narrow sense. There is only one aspect marker for each SVC. The so-called coverbial phrases, which have a structure of [$_{vp}$ V NP V (NP)] (the first verb being the co-verb), also allow one aspect marker and are considered as a type of SVCs.

### 2.2. SVCs and Temporal Sequence

Verbs denote events, states, or actions. When a sentence contains only one verb, there is no problem as far as the placement of aspect markers or the location of NPs is concerned. When two or more verbs are involved, the order of the verbs, the placement of aspect markers, and the location of NPs become an issue. Mandarin does not have overt linguistic markings to indicate the relation between verbs when verbs or verb phrases are in series. For example, Mandarin does not have to use a coordinate conjunction, such as and in English, to mark the coordination, and it does not use a subordinate phrase marker, such as to in English, to mark the subordinate phrase which is generally comparable to an infinitive phrase in English. Thus, the structure and interpretation of the following sentence can be ambiguous.

| (3) | Ta | zhong | cai | mai4 | cai. |
|---|---|---|---|---|---|
| | he | plant | vegetable | sell | vegetable |

'He plants vegetables and sells vegetables.'
'He plants vegetables to sell.'

The two events, zhong cai 'grow vegetables' and mai4 cai 'sell vegetables', in sentence (3) can either be in a coordinate construction, which means two events are independent events, or in a subordinate construction, which means two events occur sequentially, one depending on the other. The coordinate construction will not be counted as an SVC, as we indicate previously. The subordinate construction may. If we reverse the order of the two events in sentence (3), as shown in sentence (4), the coordinate structure (interpretation) remains, but the subordinate structure disappears.

| (4) | Ta | mai4 | cai | zhong | cai. |
|---|---|---|---|---|---|
| | he | sell | vegetable | plant | vegetable |

a. 'He sells vegetables and plants vegetables.'
b. '*He sells vegetable to plant it.'

Why is it so? Presumably, when the surface order does not give us much clue, we have to depend on other knowledge or principles to interpret the relation between two linguistic units in a sentence. One such principle is the Principle of Temporal Sequence (PTS) (Tai 1985). The interpretation that an event depends on the event preceding it is based on our understanding of the real world, in which events unfold along a time dimension (Tai 1985, Hsieh 1989b). The second interpretation of sentence (3) denotes two events occurring sequentially, because our real world knowledge tells us that one has to plant vegetables before one can sell them. Our real world knowledge prohibits us from interpreting selling vegetables before planting them, as the second English translation of sentence (4) shows.

The PTS, as Tai (1985) stated, says that the relative word order between two syntactic units is determined by the temporal order of the states or events that they represent in the conceptual world. This has further been modified by Li (1990) to include the situation where there is a dependency relation between these states or events and there is no overt linguistic marking indicating that relation (Li 1990: 108). In fact, dependency relation in the revised PTS, esentially, is understood in the temporal-sequenced dimension. Thus, it is sufficent to say that our knowledge about the real world will in general determine the structural relations between two syntactic units. Thus, coordinate structure is free from the constraint of temporal sequence, but subordinate structure depends on temporal sequence.

Given the PTS as a constraint for SVCs, the structural ambiguity in sentence (3) is still not solved. That is, sentence (3) has a dual structures of coordination and subordination. If it is coordination, it is not an SVC. If it is subordination, it may be an

SVC. The dilemma of its status leads to the second constraint for SVCs, that is, shared reference.

## 2.3. Shared Reference

When two events are in coordinate structure, there is no dependency or other constraint between the two verbs or verb phrases. That is, the order of verbs won't change the meaning of the entire sentence (cf. first interpretation of sentences (3) and (4)). Each verb will be followed by its individual NP, if there is any, and the references of NPs (such as cai 'vegetable' in sentence (3)) are different. When two verbs or verb phrases are in subordinate structure, there is a dependency between these two verbs. The dependency can be based on cause-effect or temporal sequence. When two verbs are in temporal sequence relation, they are expected to share an entity. When nouns refer to the same thing, one of them can be and tends to be deleted for the sake of economy. That is why it is clumsy and redundant to repeat the second noun phrase in sentence (3) with the subordinate and temporal-sequence reading. Examine the following sentence, in which an NP is deleted under same reference (*e* denotes a deleted noun, and indices mark the references of NPs):

| | | | | | |
|---|---|---|---|---|---|
| (5) | Ta | zhong | cai$_i$ | mai4 | $e_i$. |
| | he | plant | vegetable | sell | |

'He plants vegetables to sell.'

The order of verbs in sentence (5) is the same as that in sentence (3), that is, zhong 'plant' precedes mai4 'sell'. The only difference is that the second NP cai 'vegetable' in sentence (5) is empty. When this NP is empty, sentence (5) is no longer a coordinate structure but a subordinate structure, a true SVC, in which the relation between two verbs depends on their temporal sequence. With the existence of sentence (5), sentence (3), whose structure is potentially ambiguous, is somehow reduced to a coordinate structure.

## 2.4. Shared reference or shared object

We have attempted to justify the Principle of Temporal Sequence and shared reference as two distinct constraints for SVCs. Let us examine Baker's syntactic approach in terms of the shared object. Examine the following:

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| (6) | Ta | dao | le | san | bei | cha | he | le | yi | bei | e. |
| | he | pour | ASP | 3 | MW | tea | drink | ASP | 1 | MW | e |

'He poured three cups of tea and drank one of them.'

Cha 'tea' is the shared object of both verbs dao 'pour' and he 'drink' in sentence (6). The sentence should be an SVC in Baker's definition. It is not so. Sentence (6) is the result of deletion under coordinate reduction, not deletion under same reference. We need to revise our notion of shared reference to include measure words, because measure words in Mandarin carry referential information. Compare sentence (7) with sentence (6):

(7) Ta dao le san bei cha he.
he pour ASP 3 MW tea drink

'He poured three cups of tea to drink.'

What is deleted and shared in sentence (7) is san bei cha 'three cups of tea'. Deletion in sentence (7) is not the result of coordination reduction but deletion under same reference. Sentence (6) and sentence (7) are in contrast. Sentence (6), having a shared object, is not an SVC but a reduced coordinate construction. Sentence (7), having a shared reference, is an SVC. The notion of shared object would mistakenly include sentence (6) as an SVC. Therefore, shared object is not a criterion for defining SVCs. Rather, shared reference is. Of course, it is possible for Baker to restate his shared-object condition so that the object shared is not just the head noun but rather the whole NP. In that case, the two NPs would be identical precisely because they have identical reference.

We repeatedly point out that coordinate constructions are not SVCs, and now we are able to distinguish between coordinate constructions and SVCs. Shared reference and temporal sequence constraints provide a guideline for making such a distinction. Only when both constraints are met can a structure be considered an SVC.

### 2.5. Serialization of Verbs

Temporal sequence as one of the necessary conditions for SVCs has a great bearing on the constraint of serialization of verbs. Sentences such as (4) are excluded from SVCs, because the two events in sentence (4) do not have a dependency of temporal sequence and are two independent events. Because sentence (4) is not an SVC, the following sentence (8) is not an SVC, either:

(8) *Ta mai4 cai$_i$ zhong e$_j$.
he sell vegetable plant

Sentence (8) is ungrammatical, because the two noun phrases do not have the same reference. Deleting a noun without a shared reference with another noun would yield an ungrammatical sentence. Shared reference and temporal sequence together explain the restriction of serialization of verbs: the order of verb has to be zhong 'plant' > mai4 'sell' (as in sentence (5)) not *mai4 'sell' > zhong 'plant' (as in sentence (8)), and deletion is effected only if the noun and its deleted copy have the same reference, as in (5). Baker (1989) has to resort to other principles, such as the Projection Principle, the Theta Criterion, and the Thematic Hierarchy (Larson 1987) to constrain the serialization of verbs. The Principle of Temporal Sequence explains the constraint of serialization of verbs elegantly, virtually without having to invoke principles similar to those invoked by Baker.

At this point, we might ask ourselves two questions: (1) Is the deletion rule a well-motivated rule in the grammar? If it is, then, (2) Does the deletion rule delete the second noun or the first one? Let us address the first question first.

### 2.6. Deletion

Deletion is a well-motivated rule in natural languages and in Mandarin as well (Huang 1988b). It is well-attested that a noun whose reference is indicated by another noun is usually deleted or empty for the reason of economy. If nouns with the same reference are not deleted, the sentence can become awkward. Compare the following two sentences:

(9) ?Zhongguo difang hen da, Zhongguo renkou hen
China place very big, China population very

duo, Zhongguo wuchan hen fengfu.
numerous China produce very bountiful

'China has a large territory, large population and bountiful produce.'

(10) Zhongguo difang hen da, *e* renkou hen duo,
China place very big, *e* population very numerous

*e* wuchan hen fengfu.
*e* produce very bountiful

'China has a large territory, large population and bountiful produce.'

Sentence (9) usually is not used, unless we intend to emphasize the reference China. Sentence (10) is a normal utterance, in which nouns of the same reference are deleted.

To answer the second question, that is, whether deletion rule deletes the first or the second noun, we need to begin by considering the phenomenon of coordinate deletion in natural languages, an interesting fact first printed out by Ross (1967).

#### 2.6.1. Directionality Constraint

Ross (1967) proposed a general rule of directionality constraint, which stipulates that in a coordinate sentence deletion must go forward if the identical elements left-branching in a tree, but backward if they are right-branching. Sentence (10) is an instance of forward deletion, because the identical elements occur on the left-branches of a tree. The sentence is grammatical, because there is no violation of Directionality Constraint. Compare sentence (10) with the following:

(11) **e* difang hen da, *e* renkou hen duo,
*e* place very big *e* population very numerous

Zhongguo wuchan hen fengfu.
China produce very bountiful

Sentence (11) is an instance of illegal backward deletion and so it is ungrammatical. The identical elements in sentence (11) occur on the left-branches, and the deletion should have been forward not backward.

If the Directionality Constraint is the sole condition for deletion, we should be able to predict that (12a) below is grammatical and (12b) is ungrammatical:

(12) a. *Ta zhong $e_i$ mai4 $cai_i$.
he plant sell vegetable

b. Ta zhong $cai_i$ mai4 $e_i$. (=5)
he plant vegetable sell $e_i$

'He plants vegetables to sell.'

However, the reverse is true. Although the identical element occurs on the right-branches of the tree, deletion has not been backward as the Directionality Constraint stipulates. There must be another principle at work that would explain why sentence (12a) is bad but (12b) is good. We will discuss another type of deletion, anaphoric ellipsis, as suggested in Huang (1988b), and ellipsis may be an explanation of this exception to the Directionality Constraint.

### 2.6.2. Anaporic Ellipsis

Huang observed that there are several problems in the traditional treatment of A-not-A questions by deriving them uniformly from disjunctive questions through putative coordination deletions. The problems arise mainly because the Directionality Constraint of Ross is violated. Therefore, he suggested to derive the problematic types of the A-not-A question from other sources and through other means than coordination reduction. The following sentence violates the Directionality Constraint and should be ungrammatical, but it is in fact not.

(13) Ni xihuan zhe ben shu bu xihuan e.
you like this MW book not like

'Do you like this book or not?'

What is deleted in sentence (13) is the second copy of the identical element, zhe ben shu 'this book'. The deletion in sentence (13), involving an A-not-A question, and in sentence (5), involving an SVC, is the same. That is, identical elements in both sentences do not follow the Directionality Constraint. Rather, identical elements are deleted through anaphoric ellipsis, which deletes the second copy of the identical elements.

Interestingly enough, when verbs are in a temporal-sequence relation, anaphoric ellipsis applies (sentence (14)). Otherwise, Directionality Constraint applies (sentence (15)).

(14) Nei ge xuexiao zhaoshou xuesheng xulian e.
that MW school recruit students train

'That school recruits students to train.'

(Two events of zhaoshou xuesheng 'recruit students' and xulian xuesheng 'train students' are in a temporal-sequence relation, and anaphoric ellipsis applies to delete the second element.)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| (15) | Nei | ge | xuexiao | zhaoshou | e | xulian | xuesheng. |
| | that | MW | school | recruit | | train | students |

'That school recruits and trains students.'

(Zhaoshou xuesheng 'recruit students' and xulian xuesheng 'train students' are two independent events. There is no temporal dependency. Directionality Constraint of backward deletion applies to delete the first identical element.)

The following are more examples of the interaction between the temporal-sequence constraint and the Directionality Constraint on deletion:

| | | | | | | |
|---|---|---|---|---|---|---|
| (16) | a. | Ta | mai3 | xigua$_i$ | mai4 | e$_i$. |
| | | he | buy | watermelon | sell | |

'He buys watermelons to sell.'

(This involves temporal sequence and identical indices; thus, the deletion of an identical element is based on anaphoric ellipsis and bypasses the Directionality Constraint.)

| | | | | | |
|---|---|---|---|---|---|
| b. | Ta | mai3 | e$_i$ | mai4 | xigua$_j$. |
| | he | buy | | sell | watermelon |

'He buys and sells watermelon.'

(No temporal sequence and (in general) i≠j; Deletion of an idential element obeys the Directionality Constraint.)

| | | | | | | |
|---|---|---|---|---|---|---|
| (17) | Zhangsan | zhu | fan$_i$ | Lisi | chi | e$_i$. |
| | Zhangsan | cook | rice | Lisi | eat | |

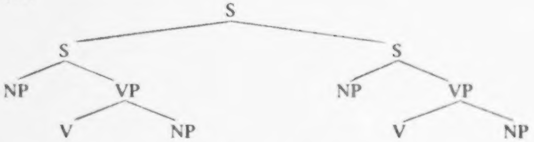
'Zhang cooks and Lisi eats.'

(temporal sequence and identical indices; anaphoric ellipsis applies and deletes the second identical element.)

## 2.7. SVCs or Coordinate Construction

We have shown that coordinate constructions and SVCs are different in terms of shared reference and temporal sequence. It is assumed, though, that both constructions are derived from the following structure:

(18)



By examining the following set of sentences, we are able to see it clearly that both shared reference and temporal sequence are important constraints for distinguishing genuine SVCs from pure coordinate constructions.

(19) a. (ta$_i$ zhong shu$_i$)$_t$ , (ta$_j$ mai4 shu$_j$)$_t$
he$_i$ plant trees$_i$ he$_j$ sells trees$_j$

'He$_i$ plants trees$_i$ , and he$_j$ sells trees$_j$.'

('t' is time index for the event.)
(Full coordination, no deletion, no temporal sequence)

b. (ta$_i$ zhong shu$_i$)$_t$ , (ta$_j$ mai4 shu$_j$)$_{t+1}$
he$_i$ plant trees$_i$ he$_j$ sells trees$_j$

'He$_i$ plants trees$_i$ , and then he$_j$ sells trees$_j$.'

(Full coordination, temporal sequence, no deletion.)

c. (ta$_i$ zhong shu$_i$)$_t$ , (ta$_i$ mai4 shu$_j$)$_t$
he$_i$ plant trees$_i$ he$_i$ sells trees$_j$

'He$_i$ plants trees$_i$, and he$_i$ sells trees$_j$.'

(Full coordination, same-reference agents, no temporal sequence, no deletion.)

d. (ta$_i$ zhong shu$_i$)$_t$ , (ta$_i$ mai4 shu$_j$)$_{t+1}$
he$_i$ plant trees$_i$ he$_i$ sell trees$_j$

'He$_i$ plants trees$_i$ , and then he$_i$ sells trees$_j$ .'

(Full coordination, same-reference agents, temporal sequence, no deletion.)

e. (ta$_i$ zhong shu$_i$)$_t$ , (e$_i$ mai4 shu$_j$)$_t$
he$_i$ plant trees$_i$ e$_i$ sell trees$_j$

'He$_i$ plants trees$_i$ and sells trees$_j$.'

(Same-reference agents, no temporal sequence, second agent deleted.)

f. $(ta_i$ zhong $shu_i)_t$ , $(e_i$ mai4 $shu_j)_{t+1}$
he$_i$ plant trees$_i$ e$_i$ sell trees$_j$

'He$_i$ plants trees$_i$ and then sells trees$_j$.'

(Same-reference agents, temporal sequence, second agent deleted.)

g. $(ta_i$ zhong $shu_i)_t$ , $(e_i$ mai4 $shu_i)_{t+1}$
he$_i$ plant trees$_i$ e$_i$ sell trees$_i$

'He plants trees$_i$ and sells them$_i$.'

(Same-reference agents, same-reference patients, temporal sequence, second agent deleted.)

h. $(ta_i$ zhong $shu_k)_t$ , $(e_i$ mai4 $e_k)_{t+1}$
he$_i$ plant trees$_k$ e$_i$ sell e$_k$

'He plants trees to sell.'

(Same-reference agents, same-reference patients, temporal sequence, second agent and second patient deleted.)

Sentences in (19) are variations based on the same constituent-structure tree of (18). The constraints of shared reference and temporal sequence in the sense of Tai (1985) and Hsieh (1989a) affect the shapes of these variant forms. However, among these eight variants, only (19g) and (19h) would be qualified as the 'genuine' SVCs. The remaining ones are divergent from the SVCs and are considered coordinate constructions. All these genuine SVCs obey Tai's Principle of Temporal Sequence. In addition, some of them also have shared-reference NPs. Thus, we can view an SVC as a prototype which has a primary feature of temporal sequence, a secondary feature of shared reference, and some additional selective features for various subtypes.

## 2.8. Independent Argument for Our Analysis of SVCs

As we have shown, SVCs and coordinate constructions are different on the basis of the conceptual principle of temporal sequence and of the semantics of shared reference. We would like to relate our approach to a 'modular approach' undertaken by Huang (1988b) to treat the problem of A-not-A questions. The basic orientation in Huang 1988b is radically different from the traditional treatment. Traditionally, A-not-A questions such as (20a) are analyzed on a par with disjunctive questions such as (20b).

(20) a. Ni mai bu mai shu?
youbuy not buy book

'Do you want to buy a book or not?'

| | | | | | | |
|---|---|---|---|---|---|---|
| b. | Ni mai | shu | haishi | bu | mai | shu |
| | youbuy | book | or | not | buy | book |

'Do you want to buy a book or not?'

That is, both (20a) and (20b) are derived from the same underlying structure through coordination deletion. However, based on syntactic distribution, such as lexical integrity, preposition stranding, and island constraints, Huang showed that not all A-not-A questions can be derived from the same base structure as disjunctive questions. He further divided A-not-A questions into two types: A-not-AB and AB-not-A with regards to lexical integrity, prepostion stranding, and island constraints. The former type is generated by a phonetic reduplication rule and thus does not have to obey lexical integrity principle, prepostion stranding, or island constraints. The latter, which displays an intervention of B between two identical elements, is generated through anaphoric ellipsis and has to obey lexical integrity, preposition stranding, and island constraints. Anaphoric ellipsis deletes the element under identity and is not constrained by the Directionality Constraint of Ross. Disjunctive questions, however, have to obey these syntactic constraints.

Huang's treatment of A-not-A questions departs from the traditionally held hypothesis that disjunctive questions and A-not-A questions are derived from the same underlying structure. Huang is trying to separates two seemingly similar and historically-related types of questions, namely, A-not-A and disjunctive questions, into different structures. In essence, that is parallel to what we are trying to do here with SVCs and coordinate constructions. Although an evaluation of Huang's new approach is beyond the scope of this paper, it may be of interest to point out that both Huang's approach and our approach are based on the assumption of what Hsieh (1989b, 1990) has called grammatical interactions. Based on the four-way division of syntax into i-structure (iconic or conceptual structure), t-structure (thematic-structure), f-structure (functional-structure), and c-structure (constituent structure), as proposed in LFG, and based on Wang (1969), Labov (1966), Hsieh (1990) proposed a view of grammar in which internal competitions among these four components of syntax (as well as among other higher-level or lower-level interacting components of the grammar) are responsible for irregularity in historical syntactic changes and for variation in synchronic syntactic patterns. In other words, given any syntactic pattern, at any time in the history of a language, the i-structure, the t-structure, the f-structure, and the c-structure components are perpetually competing for their individual dominations over this particular syntactic pattern. This view gives a plausible interpretation to Jespersen's insight that 'language is always in a flux'. When historical irregularities and synchronic variations are disregarded, and when grammaticalness is assumed to be an absolute rather than relative feature, our view would become somewhat similar to the so-called 'modular approach' in GB, as exemplified by C.-T. James Huang's (1988b) treatment of the A-not-A question in Mandarin Chinese.

Summarizing this section, we define SVCs as constructions that have verbs or verb-like phrases in series which have a shared reference, but not a shared object. We also discussed the Principle of Temporal Sequence as an independent principle for the serialization of verbs and for determining whether forward or backward coordination deletions would apply. The Principle of Temporal Sequence and shared reference jointly provide a guideline for distinguishing SVCs from coordinate constructions.

## 3. Compound verbs

### 3.1. A Statement of Problem

Extending our observation of deletion under same reference in the last section, we notice a similar pattern of deletion under same reference in the following sentence (21a), where deletion is through Huang's anaphoric ellipsis, which can apply across the sentence boundary:

| | | | | | | |
|---|---|---|---|---|---|---|
| (21) | a. | Ta tui | wo, | wo | dao | le. |
| | | he push | I | I | fall | ASP |

'He pushed me, and I fell.'

Again, the two events are dependent in terms of temporal sequence, as one has to push someone before that someone falls. The one being pushed and the one who falls are the same one. Since the two events are in temporal sequence, and there is an identical entity involved, the conditions for deletion are met. The second NP, wo 'I', is deleted. The result should be grammatical, but in fact it is not:

| | | | | | |
|---|---|---|---|---|---|
| (21) | b. | *Ta tui | wo | dao | le. |
| | | he push | I | fall | ASP |

We are facing a problem here. All the conditions are met for a sentence to be qualified as a SVC, but the sentence is not grammatical. Compare the surface order in sentence (21b) with that in sentences (3). We notice that sentences (3) is alright while sentence (21b) is not, although their constituent structures are the same. This brings us to another aspect of our analysis (as we mentioned in the beginning of this paper). That is, thematic structures of verbs.

Incorporation of the second verb with the first one occurs for sentence (21b) but not for sentence (3). This is demonstrated as follows:

| | | | | | |
|---|---|---|---|---|---|
| (22) | Ta | tui | dao | le | wo. |
| | he | push | fall | ASP | I |

'He pushed me down.'

| | | | | |
|---|---|---|---|---|
| (23) | *Ta | zhong | mai4 | cai. |
| | he | plant | sell | vegetable |

### 3.2. Thematic Structure and Compound Formation

We assume that each lexical item has its own thematic structure, which is composed of thematic roles drawn from a universal inventory and arranged in a descending order of agentivity as the one described in Bresnan and Kanerva 1989, stated as follows:

Thematic Hierarchy

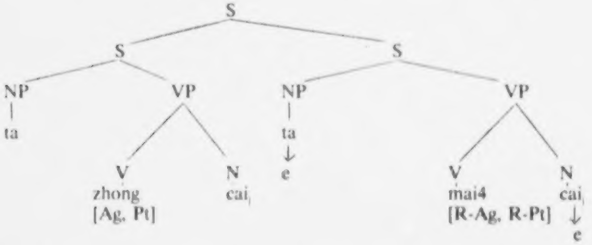
ag > ben > recip/exp > inst > th/pt > loc

Thematic roles are semantic concepts entailed in the lexical semantics of a predicate (Jackendoff 1972, 1987). The thematic roles of a predicate may be unspecified (Jackendoff 1987), but in general they cannot be reduced. A thematic role or structure is reduced when an NP which is the argument of a predicate becomes empty and the thematic role of this predicate (especially if there is only one thematic role in a predicate) cannot find an argument to which it can assign itself. When there is thematic reduction, incorporation or compounding occurs.

Let us pursue the notion of reduced thematic structure by examining the following two sentences:

| | | | | |
|---|---|---|---|---|
| (24) | Ta | zhong | cai | mai4. |
| | he | plant | vegetable | sell |

'He plants vegetables to sell.'



Both zhong 'plant' and mai4 'sell' have a thematic structure of [agent, patient]. Deletion deletes the second NP, and it creates a reduced thematic structure for mai4 'sell', represented as [R-ag, R-pt] (i.e. 'reduced-agent, reduced-patient). Both the agent and the patient of the second verb are empty, since the subject and object NPs are empty. Although the second verb has a reduced thematic structure, that reduced thematic structure is deducible from the thematic structure of the first verb: since the two thematic structures are the same, references of the reduced patient and agent are indicated in the thematic structure of the first verb. Incorporation of the second verb with the first verb will not take place in this case.

The case of tui dao 'push down' is conceptually different. The second verb dao 'fall', as literature indicates (Sebba 1987, Baker 1989), is an unaccusative verb, which requires a theme role. Examine the following structure:

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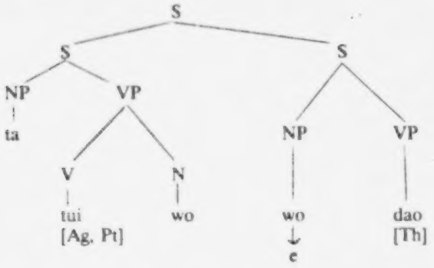
(25) Ta tui dao wo.
he push fall I

'He pushed me down.'



The verbs, tui 'push' and dao 'fall', have a thematic structure of [agent, patient] and [theme], respectively. Each thematic role is realized as indicated in the tree. The second copies of the non-theme NP (realized as wo 'I/me') is deleted under identity. The result of deletion leaves dao 'fall' a reduced thematic structure since its supporting NP wo 'I/me' is gone. This creates a situation in which the theme role of the second verb dao 'fall' is reduced but not inferrable from the thematic structure of the first verb tui 'push'. For the lack of an explicit, unreduced thematic structure and for the lack of any structural elements within the same sentence to provide information about its thematic structure, the verb dao 'fall' cannot stand alone in the second conjunct. It must move into the first conjunct and be incorporated with the verb there. After incorporation, the two verbs jointly theta-mark the noun wo 'I'. In this position dao 'fall' finds an argument ta 'he' to discharge its thematic role. Although the original theme of dao 'fall' is VP-external (that is, a subject) and the new theme of dao 'fall' is VP-internal (that is, an object), the two theme roles refer to the same entity wo 'I/me'. This gives another strong support for our disagreement with Baker's idea of shared object, and for our claim that shared reference instead is the key to the constraints on SVCs in Mandarin Chinese. This movement is thus motivated and also provides partial support for Bresnan and Kanerva's thematic hierarchy (which they adapted from previous authors), in which theme and patient are in the same position. This theme role of dao 'fall' overrides the patient role of tui 'push' and the two verbs jointly assign the theme role to the following NP. Thus, we get the following sentences:

(26) a. Ta tui dao le wo.
he push fall ASP I

'He pushed me down.'

b. Wo tui dao le.
I push fall ASP

'I was pushed down.'
'I pushed something and made it fall.'

c. Ta tui le.
he push ASP

'He pushed.'
*'He was pushed.'

The distinction between the patient and theme roles is that the argument bearing the theme role can appear in the sentence initial position, but the patient role cannot (Bresnand & Kanerva 1989). Tui 'push', having a thematic structure of [agent, patient], cannot occur in a sentence such as (26c) if its initial noun is a theme. Tui dao 'push down', having a thematic structure of [agent, theme], can occur in sentence (26b), whose initial noun is a theme.

The adjacency constraint as Baker claimed does not exist. The second verb does not have a full thematic structure and is more like a clitic. A clitic will not block the theta assignment (cf. the placement of -le between the verb and the noun of a verb-noun compound as in kan le shu 'read the book'). The two verbs form a new lexical item and jointly theta mark the noun phrase that follows. Compounding occurs when there is a reduced thematic structure in the second conjunct, and the thematic role in the reduced structure cannot find a noun phrase within that conjunct to discharge its theta role.

### 3.3. Temporal Sequence as an Independent Principle

We will go back to temporal sequence as a constraint for defining SVCs and further sustantiate the claim that temporal sequence is an independent principle from thematic-structure constraints. Compare following sentences:

(27) Ta zhong shu mai4.
he plant tree sell

'He plants trees to sell.'

(28) *Ta zhong shu mai3.
he plant tree buy

(29) Ta mai3 shu zhong.
he buy tree plant

'He buys trees to plant.'

(30) *Ta mai4 shu zhong.
he sell tree plant

We notice that sentences (28) and (30) have the same thematic structures as (27) and (29), respectively. Therefore, the ungrammaticality of (28) and (30) cannot be due to a violation of any thematic-structure constraint but must be due to a violation of the temporal-sequence principle. In (28) Tai's temporal sequence principle is violated, because *mai3* 'buy' precedes *zhong* 'plant' temporally but is not ordered before it syntactically. Similarly, in (30), *zhong* 'plant' precedes *mai4* 'sell' temporally but is not ordered before it syntactically.

### 3.4. Dowty's Neo-Davidsonian system of thematic roles.

The fact that reduced thematic roles are a reasonable explanation for the restrictions on compound formation remains even if we adopt a more logically-minded approach to thematic structures. In particular, the fact remains even if we shift from Bresnan and Kanerva's system to Dowty's (1986) Neo-Davidsonian system. In Dowty's Neo-Davidsonian system of thematic roles, no matter how many (traditional) arguments a verb has, that verb is treated as if it were a one-place predicate whose only argument is simply the event itself. The thematic roles are relations between the traditional arguments and the event. Adverbs are treated like verbs, and therefore as a one-place predicate taking the event as its only argument. The following is the formula for the representation of thematic roles of sentence (31) in the Neo-Davidsonian system:

(31) Jones buttered the toast at midnight in the bathroom.

*Formula*

(32) *E*e [buttered (e) & Agent (Jones, e) & Patient (the-toast, e) & at-midnight (e) & in-the-bathroom (e)]

Applying the Neo-Davidsonian system of thematic roles to Mandarin serial verbs is to convert some kind of two-event formula into a kind of one-event formula. For example, consider the following:

| | | | | | |
|---|---|---|---|---|---|
| (33) | Zhangsan | he | wan | le | jiu. |
| | Zhangsan | drink | finish/up | ASP | liquor |

a. 'John finished drinking the liquor.'
b. 'John drank up the liquor.'

The one-event solution for sentence (33) will have the following formula:

(34) a. *E*e [drink-finish (e) & Agent (John, e) & Patient (liquor, e)]

b. *E*e [drink-up (e) & Agent (John, e) & Theme (liquor, e)]

Notice that *liquor* is patient in (34a) but theme in (34b).

The two-event solution for sentence (33) will yield the following formula:

'I was pushed down.'
'I pushed something and made it fall.'

c. Ta tui le.
he push ASP

'He pushed.'
*'He was pushed.'

The distinction between the patient and theme roles is that the argument bearing the theme role can appear in the sentence initial position, but the patient role cannot (Bresnand & Kanerva 1989). Tui 'push', having a thematic structure of [agent, patient], cannot occur in a sentence such as (26c) if its initial noun is a theme. Tui dao 'push down', having a thematic structure of [agent, theme], can occur in sentence (26b), whose initial noun is a theme.

The adjacency constraint as Baker claimed does not exist. The second verb does not have a full thematic structure and is more like a clitic. A clitic will not block the theta assignment (cf. the placement of -le between the verb and the noun of a verb-noun compound as in kan le shu 'read the book'). The two verbs form a new lexical item and jointly theta mark the noun phrase that follows. Compounding occurs when there is a reduced thematic structure in the second conjunct, and the thematic role in the reduced structure cannot find a noun phrase within that conjunct to discharge its theta role.

### 3.3. Temporal Sequence as an Independent Principle

We will go back to temporal sequence as a constraint for defining SVCs and further sustantiate the claim that temporal sequence is an independent principle from thematic-structure constraints. Compare following sentences:

(27) Ta zhong shu mai4.
he plant tree sell

'He plants trees to sell.'

(28) *Ta zhong shu mai3.
he plant tree buy

(29) Ta mai3 shu zhong.
he buy tree plant

'He buys trees to plant.'

(30) *Ta mai4 shu zhong.
he sell tree plant

We notice that sentences (28) and (30) have the same thematic structures as (27) and (29), respectively. Therefore, the ungrammaticality of (28) and (30) cannot be due to a violation of any thematic-structure constraint but must be due to a violation of the temporal-sequence principle. In (28) Tai's temporal sequence principle is violated, because mai3 'buy' precedes zhong 'plant' temporally but is not ordered before it syntactically. Similarly, in (30), zhong 'plant' precedes mai4 'sell' temporally but is not ordered before it syntactically.

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The fact that reduced thematic roles are a reasonable explanation for the restrictions on compound formation remains even if we adopt a more logically-minded approach to thematic structures. In particular, the fact remains even if we shift from Bresnan and Kanerva's system to Dowty's (1986) Neo-Davidsonian system. In Dowty's Neo-Davidsonian system of thematic roles, no matter how many (traditional) arguments a verb has, that verb is treated as if it were a one-place predicate whose only argument is simply the event itself. The thematic roles are relations between the traditional arguments and the event. Adverbs are treated like verbs, and therefore as a one-place predicate taking the event as its only argument. The following is the formula for the representation of thematic roles of sentence (31) in the Neo-Davidsonian system:

(31) Jones buttered the toast at midnight in the bathroom.

Formula

(32) *E*e [buttered (e) & Agent (Jones, e) & Patient (the-toast, e) & at-midnight (e) & in-the-bathroom (e)]

Applying the Neo-Davidsonian system of thematic roles to Mandarin serial verbs is to convert some kind of two-event formula into a kind of one-event formula. For example, consider the following:

| | | | | | |
|---|---|---|---|---|---|
| (33) | Zhangsan | he | wan | le | jiu. |
| | Zhangsan | drink | finish/up | ASP | liquor |

a. 'John finished drinking the liquor.'
b. 'John drank up the liquor.'

The one-event solution for sentence (33) will have the following formula:

(34) a. *E*e [drink-finish (e) & Agent (John, e) & Patient (liquor, e)]

b. *E*e [drink-up (e) & Agent (John, e) & Theme (liquor, e)]

Notice that liquor is patient in (34a) but theme in (34b).

The two-event solution for sentence (33) will yield the following formula:

(35) a. *Ee Ef* [drink (e) & Agent (John, e) & Patient (liquor, e) & finish (f) & R-Agent (John, f)] (note: 'R-' means 'reduced'.)

b. *Ee Ef* [drink (e) & Agent (John, e) & Theme (liquor, e) & up (f) & R-Theme (liquor, f)]

Converting two-event formula into one-event formula requires the following two operations:

a. If an event has a reduced agent (i.e. R-Agent) or a reduced theme (i.e. R-Theme), then delete the conjunct containing that reduced thematic role.

b. Merge the two events so that the event with a reduced thematic role becomes the second part of a two-part event, thus drink-finish and drink-up.

Speculation on the motivation for this conversion, and ultimately, for Mandarin compound formation may be made in the following fashion: In a two-event formula, such as (35a), without the prefix R- expressing a reduced thematic role, it would not be clear whether John in 'Agent (John, e)' and John in 'Agent (John, f)' denote the same individual. The prefix R- indirectly makes sure that the two John's have identical reference. Since the reduced John is identical in reference to the un-reduced John, its deletion seems natural and the eventual compounding of the two verbs also seems a natural (although not universal) consequence of this deletion.

In summary, we proposed a restriction on compound formation by resorting to the thematic structure of predicates. When a thematic structure is reduced and is not deducible within its conjunct, compounding occurs. We also showed temporal sequence as an independent principle from thematic structure constraints.

## 4. Co-verbial phrases

In the last section we discussed compounding as a result of deletion and reduced thematic structure. We will extend the idea of reduced thematic structure to explain co-verbs. Co-verbs do not involve deletion and compounding. However, they involve, in essence, a reduced thematic structure. In this section, we will discuss only one case of reduced thematic structure, and that is the benefactive role.

Examine the following:

(36) a.

| | | | | | | |
|---|---|---|---|---|---|---|
| Ta gei | wo | mai | le | yi | ben | shu. |
| he give | I | buy | ASP | one | MW | book |

a. 'He bought a book for me.'
b. 'He bought a book to give to me.'

b.

| | | | | | | |
|---|---|---|---|---|---|---|
| Ta mai | le | yi | ben | shu | gei | wo |
| he buy | ASP | one | MW | book | give | I |

'He bought a book and gave it to me.'

Sentence (36a) is ambiguous as the English translation indicates. Gei 'give' in sentence (36a) has a goal (to) as well as benefactive (for) interpretation, while gei 'give' in sentence (36b) has only one interpretation, i.e. goal (to). Gei 'give' as a full-fledged verb has a thematic structure of [agent, patient, goal]. Sentence (36a) has a full form as follows:

(37) Ta gei wo yi ben shu, ta mai le yi ben shu.
he give I one MW book he buy ASP one MW book

'He gave me a book; he bought a book.'

When both yi ben shu 'one book' refer to the same thing, deletion applies and it results in the following sentence:

(38) Ta gei wo mai le yi ben shu.
he give I buy ASP one MW book

'He bought a book to give to me.'

Goal role (assigned to wo 'I') in the thematic structure of gei 'give' is not reduced, and thus sentence (38) has the interpretation of to me, a goal meaning. Gei in sentence (36b) has the thematic structure of [agent, patient, goal], and two verbs mai3 'buy' and gei 'give' are in temporal sequence relation. Deletion through anaphoric ellipsis applies to eliminate the second identical element. Deletion reduces the patient role but not the goal role, since only the patient NP yi ben shu 'a book' is deleted. Therefore, the postverbal gei 'give' in sentence (36b) has the additional goal interpretation of to me.

What about the benefactive interpretation contained in sentence (36a)? Gei is here a 'degenerated' verb (or a 'co-verb', as it is usually called in Mandarin Chinese grammars), having a 'reduced' thematic structure of [agent, benefactive] (which is not derived by deletion but is a result of historical development) rather than the full [agent, patient, goal]. In this case, the benefactive role is assigned to the noun directly following the verb. Thus, we get the benefactive interpretation.

In this section, we discussed ambiguity of preverbal gei and attributed it to the ambivalent thematic structure of the lexical item gei. When occurring alone without another verbs, gei 'give' is a full verb with a thematic structure of [agent, patient, goal]. When gei 'give' is in the second verb position, it has temporally-sequenced relation with the previous verb and it retains this full thematic structure. However, when gei occurs in the first verb position, it may take on a reduced thematic structure of [agent, benefactive] in addition to its full thematic structure of [agent, patient, goal]. Therefore, ambiguity results.

## 5. The Placement of Perfective Aspect Marker -le

Mandarin usually does not use syntactic markers to indicate syntactic relationship. Perfective aspect marker is one of the very few syntactic markers. In this section, we will discuss the principle of -le placement. We will discuss the relation between the thematic structure of a verb and the placement of -le. This is partly to question Baker's double-headed VP condition for SVCs. We will show that there is only one aspect marker in each serial verb construction but not two, contrary to what Baker would predict with his double-headed VP, and furthermore the placement of -le is constrained by the thematic structure of verbs.

### 5.1. The placement of -le and thematic structure

Bresnan and Kanerva noted that grammaticalization of verb-agreement markers proceeds from the highest role downward (Bresnan & Kanerva 1989: 24). There is no verb-agreement in Mandarin Chinese, and the placement of -le plays a similar role of grammaticalization of verb agreement. That is, -le placement proceeds from the highest role downward. The verb with a 'stronger' thematic structure of [agent, patient] or [agent, theme] will likely attract -le more easily than verbs with a 'weaker' thematic structure, such as [agent, benefactive] or [agent, goal]. Let us try this idea first on an SVC sentence, sentence (3), repeated below as sentence (39) for easy reference.

(39) Ta zhong cai mai4.
he plant vegetable sell

'He grows vegetables to sell.'

Zhong 'plant' has a thematic structure of [agent, patient]. The perfective aspect marker (PF) -le would be attracted. It is correct, as the following sentence shows.

(40) Ta zhong le cai mai4.
he plant PF vegetable sell

'He grew vegetables to sell.'

Mai4 'sell', as we discussed previously, has a reduced thematic structure of [R-agent, R-patient]. Reduced thematic structure will not attract -le, as the following sentence demonstrates:

(41) ?Ta zhong cai mai le.
he plant vegetable sell PF

'He has grown vegetables to sell.'

Sentence (41) is marginal, at best, because the -le placed after the second verb coincides with the the homophonous sentence-final particle le (termed CRS, Currently Relevant State, by Li & Thompson 1981). If a time phrase is added, the grammaticality can be easily detected. Compare the following sentences:

(42) a. Ta qunian cengjing zhong le cai mai.
he last year HAS BEEN plant PF vegetable sell

'Last year he had grown vegetables to sell.'

b.??Ta qunian cengjing zhong cai mai le.
he last year HAS BEEN plant vegetable sell PF

Sentence (42b) can be made grammatical by continuing the sentence with an explicit 'measure' phrase, as follows:

(43) Ta qunian cengjing zhong cai mai le wu
he last year HAS BEEN plant vegetable sell ASP five

bai kuai qian.
hundred MW money

'Last year he sold 500 dollars worth of vegetables he grew.'

We have demonstrated that the placement of -le is determined by the thematic structure of a verb. Verbs with a strong thematic structure of [agent, theme] or [agent, patient] will attract -le.

## 5.2. The placement of -le and co-verbial phrases

The placement of -le in the following sentences confirms our hypothesis that placement of -le depends crucially on the thematic structure of verbs in a sentence. Consider the following:

(44) a. Ta gei wo mai le yi ben shu.
he give I buy ASP 1 MW book

'He bought a book for/to give to me.'

b. Ta mai le yi ben shu gei wo.
he buy ASP 1 MW book give I

'He bought a book to give to me.'

c. *Ta gei le wo mai yi ben shu.
he give ASP I buy 1 MW book

d.*?Ta mai le yi ben shu gei le wo.
he buy ASP 1 MW book give ASP I

Gei in sentences (44c) and (44d) both have a reduced thematic structure of [agent, goal, R-patient], and placing aspect marker after reduced thematic structure makes both sentences bad. However, in terms of degree of grammaticality, sentence (44d) is better than sentence (44c). This is due to the fact that gei in sentence (44c) has an additional interpretation which involves two reduced thematic roles and has the thematic structure of [agent, benefactive, R-goal, R-patient], while gei in sentence (44d) has only one reduced thematic role (i.e. R-patient).

Compare sentence (44d), which is marginal, with sentence (45), which is totally ungrammatical.

(45) *Wo mai yi ben shu gei le ta.
I buy one MW book give ASP he

The ungrammaticality of sentence (45) shows that the placement of -le has to observe a constraint: only after the verb with an [agent, patient] thematic structure is assigned the perfective marker -le, can the verb with a weaker thematic structure be assigned another -le.

### 5.3. The placement of -le and compound verbs

Compound verbs in Mandarin is a special phenomenon in the typology of serial verb constructions (Sebba 1987). The placement of -le coincides with the prominent point in the thematic structure of a VV compound. The fact that a VV compound only allows one aspect marker makes us rethink Baker's double-headed VP analysis. Compare the following sentences:

(46) a. Ta tui dao le wo.
he push fall ASP I

'He pushed me down.'

b. *Ta tui le dao wo.
he push ASP fall I

c. *Ta tui le dao le wo.
he push ASP fall ASP I

Tui dao 'push down' in sentence (46a) has a thematic structure of [agent, theme], which is the optimal place for attracting -le. Thus, -le is placed there, and the sentence is grammatical. Tui 'push' in sentence (46b), though it has a full-fledged thematic structure of [agent, patient], will not attract -le, because the placement of -le will leave a reduced thematic structure of dao 'fall' dangling. Thus, the ungrammaticality of sentence (46b) is explained. Sentence (46c) has a -le placed after the reduced thematic structure dao 'fall', a violation of our -le placement principle. Thus, the sentence is bad.

Summarizing what we have discussed so far, we conclude that the perfective aspect marker -le is placed according to the thematic structure of verbs in the sentence. Only a 'stronger', full-fledged thematic structure of [agent, patient] or [agent, theme] will receive the perfective aspect marker -le. Reduced thematic structure will not receive an aspect marker. There can be only one perfective aspect marker in an SVC, which, as discussed in this paper, include co-verbial phrases, VV compounds, and verbs-in-series.

## 6. Conclusion

We conclude that SVCs are constrained by temporal sequence and shared reference, not shared object. Baker's double-headed VP analysis of SVCs requires serious rethinking when taking the inflection morphology and compounding in Mandarin Chinese into consideration. In recent developments, syntactic theories have shifted their attention from constituent structures to the study of the relationships among conceptual, thematic, functional, and constituent structures. One such endeavor is the Lexical Mapping Theory in Lexical Functional Grammar (LFG) (Bresnan and Kanerva 1989, C. Huang 1989a, b), in which the thematic structure (largely determined by conceptual structure as outlined in Jackendoff 1987) is mapped into the functional structure (subject, object, oblique cases etc.). Government and Binding Theory (GB), on the other hand, strives to address the same issue of linking (rather than mapping) between thematic structure and constituent structure. However, the GB approach is conceptually different from LFG in that mapping is done from constituent structure to thematic structure. Once constituent structure is given, theta markings and case markings follow. The notion of head and the percolation principles are designed to suit the needs of theories rather than to describe and explain language phenomena (see discussion in Zwicky 1985). Baker's Head-Licensing Condition (HLC) is one such example: The Projection Principle and Theta Criteria will be violated if the double-head is not licensed in the theory. Once it is licensed, everything falls into place. Inflection morphology (the placement of -le in Mandarin Chinese) refutes Baker's double-headed VP analysis of SVCs.

Based on our discussion above, we would like to point out that principles dominating languages should be drawn from the conceptual world rather than from surface structure, because surface structure is just a reflection of conceptual reality. Thus mapping between conceptual structure and lexical semantic structure has to be from conceptual structure to thematic structure, as demonstrated in LFG, not the other way around, as outlined in GB.

As a final remark, we wish to point out that the rather loosely characterized idea of parameters as a device for describing typological diversification has yet to find its convincing empirical support. In particular, Baker's idea of shared-object for the SVCs in African languages cannot easily extend to our idea of temporal sequence (and shared reference) for the SVCs in Mandarin Chinese by any imaginable way of parametric adjustment.

## Notes

1. This is the semantic classification for the first type of SVCs. Syntactically, it can be reduced to coordination and subordination. We will refer to alternating as coordination, and the rest as subordination. Only the subordination constructions are qualified as SVCs in our definition.

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# Syntactic Constructions in Serial Verb Expressions in Chinese*

John Xiang-ling Dai
Department of Linguistics, The Ohio State University

## 1. Abstract

This paper investigates the syntactic constructions of serial verb expressions (two verbs in sequence as V1+V2) in Mandarin Chinese. At least three distinct constructions are identified: coordination, subordination and serialization. The first two have been widely presented in the literature as the serial verb construction, but we will argue that they can, and should, be adequately analyzed as what have traditionally been called coordination and subordination, based on their grammatical behaviors with respect to the Coordinate Structure Constraint, the distributional difference between A-not-A and alternative questions, the agreement in aspect, the scopes of the negators, and the phonological marking for coordinate structure. Concerning the third construction, serialization, we will claim that the lai-construction belongs to this type. Called the serial verb construction (SVC) in this paper, the lai-construction is shown to share some properties with subordination and some with coordination, but it differs from both of them with respect to the other properties. In particular, the rule of VP2-fronting cannot apply as it would in a subordinate structure, giving rise to the conjecture that the V2 and its object argument in serialization do not form a syntactic constituent. Other correlates of the lai-construction as the SVC will be discussed: the obligatory agreement in aspect between V1 and V2, the prohibition of negation on V2, among others. We further observe that nothing may intervene between V1 and V2. Such a strict intervention constraint leads us to a stronger claim: V1+V2 constitutes a morphological word in the construction. Supporting evidence in phonology comes from the participation of V1+V2 in the word internal sandhi, traditionally called Final Elision. More crucially, an aspect marker cannot be suffixed to V1 as it could in the other constructions, demonstrating that V1 is not a morphological word.

## 2. Introduction

Not all serial verb expressions may deserve the name the serial verb construction (SVC). We assume that SVC is a marked construction, different from coordination and subordination, which are independently motivated across languages. Therefore, the methodology to be adopted here is that, in analyzing a serial verb expression, we first check whether it is coordination proper. If it is not, then we check whether it is subordination proper. Only being neither coordination nor subordination, can the expression then possibly be regarded as genuine SVC.

The term "serial verb" is typically used in the linguistic literature on some African languages, where the construction is made up of a subject and two or more adjacent predicate verb phrases. Chao (1968: 325) claims that Chinese verbal expressions in series form an intermediate type of construction between subordinate and coordinate constructions, but are closer to the latter. Li and Thompson (1973: 96-103) recognize verbs in sequence as one of the most common sentence types in Chinese. But they seem to conclude that the serial verb construction can be reduced to coordinate and subordinate constructions. Thus, by implication, in their analysis, the serial verb construction is a redundant notion in the grammar of Chinese.

The status of verb serialization in some African languages according to Noonan (1985: 55-57, 77-82) is that the construction, or rather, a family of constructions, is aligned with parataxis (roughly, coordination without overt markings) in a few morphosyntactic aspects, thus should be distinguished from hypotaxis (subordination); however, serialization and parataxis are different in a number of morphosyntactic respects. In lectures, Zwicky[1] has further developed Noonan's framework, pointing out that serial and paratactic constituents all bear the same grammatical relation (GR) to a single external constituent, and bear no GR to one another. On one hand, the characteristic of non-GR sharing distinguishes the two constructions from hypotaxis; on the other hand, the different morphsyntactic behaviors between serialization and parataxis are the consequences of single headedness in serialization vs. multiple headedness in parataxis.

In this paper, we wish to show that the serial verb expressions in Chinese have at least three distinct syntactic constructions: coordination (or parataxis), subordination (or hypotaxis) and serialization. We will call serialization the serial verb construction (or SVC), in contrast with the neutral term serial verb expression or verbs in series, referring to sequential verb phrases for all three constructions, especially to the coordinate and subordinate constructions.[2]

In particular, we will demonstrate that the verbs in series in Chinese widely presented in the literature as SVC is not well supported in the restrictive theory of serialization of Noonan and Zwicky. We will review the analysis in Li & Thompson (1973) and provide more evidence from the syntax, morphology, semantics and phonology of the language to support a reductionalist view (section 3). The Coordinate Structure Constraint (CSC, Ross 1967), the distributional difference between A-not-A and alternative questions, the agreement in aspect, the scopes of the negators, and phonological marking for coordinate structures all seem to work together to identify coordination from among of the serial verb expressions.

In distinguishing between subordination and serialization, we hypothesize that, for a construction to qualify as a SVC in the language, the second verb (V2) in series would not form a syntactic constituent with its own semantic object argument or modifier, in contrast to hypotaxis in which the V2 DOES. And a strict intervention constraint disallows any element to intervene between V1 and V2 in the SVC. Thus in our analysis, not only the so-called "SVC" in Li & Thompson (1973), but similar constructions for co-verb and pivotal sentences, are excluded from serialization for the same reason that hypotaxis is (section 4).

The lai-construction is examined (section 5). We will show that its V2 in series seems to behave like a lexical (V) complement to the first verb (V1) in serialization, rather than a phrasal (VP) complement in subordination, leading to the conclusion that the lai-construction is a real serialization in Chinese. The construction has three correlates to SVC: the intervention constraint between V1 and V2, the obligatory concord in aspect between V1 and V2 and the prohibition of negation placed on V2.

One of the crucial properties of the SVC is that no element of any sorts may intervene between V1+V2 in the lai-construction. The intervention constraint provides an important piece of evidence for claim that the verbs in series form a morphological word (section 6). We support this claim by first demonstrating that V1+V2 forms one phonological word, since the word internal sandhi Final Elision applies across the boundary between V1 and V2 in the construction. In addition, the fact that the apsect marker *-le* CANNOT be morphologically attached to V1 as it CAN to V2 indicates that there is no morphonological word boundary between V1 and V2. Finally, we abandon our earlier hypothesis that the V2 and its following sister constituent in SVC do not form a syntactic VP constituent, in order to capture the generalization that the two do form a VP constituent elsewhere in Chinese. Thus, in our analysis, V2 and its object form the same syntactic constituent VP2 in serialization as in subordination. The barring of the application of the VP2-fronting in SVC is then due to a universal morphological and phonological constraint: the prohibition on breaking the constituency of proper parts of a word.

## 3. Identifying Coordination in the Serial Verb Expressions

Li & Thompson (1973: 96, henceforth LT) assume that serial verb sentences are composed of a subject and two predicates, as in (1) with examples in (2) and (3):

(1) NP V1 (NP) V2 (NP)
Subject Predicate1 Predicate2

(2) Ni gui-xialai qiu Zhang-san.
you kneel down beg Zhang-san

(3) Zhang-san gin-qu mai piao.
Zhang-san go in buy ticket

If the above data were from the Affican language Ga-, we would see that V1 *gui-xialai* and V2 *qiu* in series in (2) would share the tense-aspect marking, in agreement with the subject, while there would be no internal GR between V1 and V2. Thus the SVC would be distinguished from parataxis in Lango on one hand, and from hypotaxis on the other hand (see examples in Noonan (1985: 55-56, 77-82)). But in the Chinese data above, the "SVC" remains to be justified because of lack of proper inflectional morphology marking syntactic agreement and government. (2) and (3) could well be coordination or subordination. Therefore, like traditional Chinese linguists, LT start their analysis with the semantics.

The semantic interpretations of (2), for instance, are always ambiguous, as below:

(2) a. You knelt down in order to beg Zhang-san. (Purpose)
a'. You begged Zhang-san by kneeling down. (Manner)
b. You knelt down and then beg Zhang-san. (Consecutive action)
c. You knelt down begging Zhang-san. (Simultaneous action)
d. You knelt down and begged Zhang-san. (Alternating action)

(2a') is not on LT's list. We add it for the purpose of discussion. ((2a) and (2a') are different in the location of the center of the predication.) Although (2a) is the preferable reading according to "the knowledge of the world" (LT: 98), the other four are all reasonable interpretations. LT (p.100) optimally account for (2) by presenting syntactic evidence supporting two (deep) structures for (2), a subordinate one in (4), expressing purpose as in (2a), and a coordinate one in (5), expressing any of the conjunction readings in (2b), (2c) or (2d) (We have slightly modified both (4) and (5).).

```
(4)              S
              /     \
         NP          VP
         I          /   \
         I       VP       S
         I        I       I
         Ni  gui-xialai  (ni) qiu Zhang-san
         you kneel down you beg Zhang-san
```

```
(5)              S
             /         \
         NP              VP
         I              /   \
         I         VP         VP
         I          I          I
         Ni      gui-xialai  qiu Zhang-san
         you     kneel down beg Zhang-san
```

Let us now discuss the evidence supporting the structural distinction between (4) and (5). First, according to LT, only on a purpose interpretation may the object of V2, *Zhang-san*, be topicalized, as illustrated in (6); and only on a purpose reading may the the entire VP2 be preposed, given that VP1 is preceded by some auxiliary, as in (7).

(6) Zhang-san, Ni gui-xialai qiu.
Zhang-san, you kneel dowm beg
'Zhang-san, you kneel down to beg'

(7) Qiu Zhang-san dei gui-xialai.
beg Zhang-san, must kneel dowm
'To beg Zhang-san, one must kneel down.'

As pointed out by LT, these two facts fall out naturally, given the universal Coordinate Structure Constraint (CSC) in Ross (1967), which is shown to hold in Chinese (Tai 1973: ch. 4, Dai 1990c, etc.): Extraction is impossible from the coordination in (5), but possible and allowed in subordination in (4). Here we supply more supporting evidence with respect to the CSC. V1 may have an independent object, as in (8a), associated with both subordination and coordination readings. Preposing the V1's object gives only the subordination reading, as predicted by the CSC, as in (8b).

(8) a. Ta jian-qilai na gen gunzi da ren.
he pick up that Measure stick hit people
'He picked up that stick in order to hit people.' (Purpose)
'He picked up that stick and then hit people.' (Consecutive action)

b. Na gen gunzi, ta jian-qilai da ren.

that Measure stick he pick up hit people
'He picked up that stick in order to hit people.' (Purpose)
*'He picked up that stick and then hit people.' (Consecutive action)

LT assume that the negation morpheme *bu* has a single predicate as its scope, while *bushi* may have more than one predicate as its scope. As might be expected, (9a) with *bushi* can be interpreted as conjunction, but (9b) with *bu* cannot be; it can only be interpreted as a subordination.[3]

(9) a. Wo bushi gui-xialai qiu Zhang-san.
I not kneel down beg Zhang-san
'It is not the case that I knelt down and begged Zhang-san.'

b. Wo bu gui-xialai qiu Zhang-san.
I not kneel down beg Zhang-san
'I do not kneel down to beg Zhang-san.'

A distributional difference between A-not-A questions and alternative questions marked by the disjunction morpheme *haishi* 'or' or its variants is that the former must be located on the left edge of a maximal phrase (usually of a VP predicate), but the latter is not necessarily so (Dai 1990a). LT observe that only a purpose reading can undergo A-not-A question formation, and propose that A-not-A must be incorporated in the main verb V1, as in (10a). It follows that an A-not-A form at the right edge is unacceptable, as in (10b), grammatically in contrast to (10c), in which an alternative question occurs at the right edge. Two predictions follow automatically: First, (10c) enforces a conjunction reading. Second, any extraction of V2 object is impossible, because of the violation of the CSC, as in (10d).

(10) a. Ni gui-bu-gui-xialai qiu Zhang-san?
you kneel not kneel down beg Zhang-san
'Do you kneel down to beg Zhang-san?'

b. *Ni gui-xialai qiu-bu-qiu Zhang-san?
you kneel down beg not beg Zhang-san

c. Ni gui-xialai qiu-shi-bu-qiu Zhang-san?
you kneel down beg or not beg Zhang-san
'Do you kneel down and beg Zhang-san?'

d. *Zhang-san, Ni gui-xialai qiu-shi-bu-qiu?
Zhang-san you kneel down beg or not beg

V1 and V2 in paratactic constructions do not have to agree in tense and aspect (Noonan 1985: 77). This bears on the issue here. Chinese has a few aspectual markers, *zhe* for progressive and *le* for perfective, for instance. As expected, (11a) can only have conjunction readings, for V1 is marked with *le* but V2 is differently marked with *zhe*. It also follows that (11a) is subject to the CSC, i.e., *Zhang-san* is not allowed to be fronted, as in (11b).

(11) a. Li-si gui -le -xialai qiu-zhe Zhang-san.
Li-siu kneel Perf. down beg Prog. Zhang-san
'Li-si had knelt down and was begging Zhang-san.' (Consecutive action)
*'Li-si had knelt down to be begging Zhang-san.' (Purpose)

b. *Zhang-san, Li-si gui-le-xialai qiu-zhe.

Phonological evidence also supports the structural distinction between (4) and (5) for (2). Phonological pause and falling intonational ending may mark coordinate expressions in Chinese, though the most natural of these expressions is without pauses or special intonation contours (Chao 1968: 262-264). While ambiguity may arise if there is no pause or falling ending between VP1 and VP2, only a paratactic reading can be obtained when they are in place, marked as comma in (12). Needless to say, the CSC disallows any extractions here.

(12) Ni gui-xialai, qiu Zhang-san.
you kneel down beg Zhang-san
'You knelt down and then begged Zhang-san.' (Consecutive action)
*'You knelt down to beg Zhang-san.' (Purpose)

So far we have provided more evidence to single out coordination from the serial verb expressions. The most convincing evidence for coordination is its sensitivity to the CSC: Nothing can be extracted from its conjuncts, as illustrated in (6) and (7) etc., which do not have the conjunction readings. In a coordination, two VPs do not have to agree in aspect, as shown in (11), hence enforcing a conjunction reading only. The coordination status is supported by the scopes of the negators: The negation of the whole scope by *bushi* is allowed for coordination readings only, as indicated in (9a). Other evidence for the coordination analysis comes from the distributional difference between A-not-A and alternative questions, and from the pause and intonation marking coordination in the language.[4]

Before getting to the distinction between subordination and serialization, we wish to show that the putative verbs in series in Chinese in the literature does not fit into the notion of serialization suggested by Noonan and Zwicky. More importantly, all sentences of the verbs in series, represented by (2), can be adequately classified into either coordinate or subordinate constructions, which are independently motivated in the syntax of Chinese, leading to the claim that the "SVC" for the putative verbs in series is not only spurious but also extraneous (but see section 5). For convenience, let us first list the similarities and distinctions between serialization and parataxis in Noonan (1985: 55), elaborated by Zwicky, who suggests that VX serialization shares the following properties with VX parataxis.

(13) a. A single constituent (subject NP or complement-taking V) with which the verbs are in construction;
b. The possibility of multiple, flat VX;
c. Full inflection on each VX;
d. No marker of subordination (or coordination) linking the VXs;
e. No special mood forms for non-first VX; instead, parallelism for all VXs.

Thus, according to Zwicky, serial and paratactic constituents all bear the same grammatic relation (GR) to a single external constituent, and bear no GR to one another. The characteristics of non-GR sharing distinguish the two constructions from hypotaxis on one hand. On the other hand, serialization and parataxis differ semantically and morpohsyntactically, as below.

(14) a. Serialization contains only one assertion, whereas parataxis contains two or more assertions;
  b. Serialization has obligatory agreement in tense/aspect, whereas parataxis does not;
  c. Serial VX allows only one negation for the entire scope, whereas paratactic VXs can be independently negated.[5]

Thus the syntactic difference between serialization in Ga~ and parataxis in Lango are the consequences of single headedness in serialization vs. multiple headedness in parataxis. It should be noted that serialization is aligned now with hypotaxis in single headedness, and shares with hypotaxis all the properties listed in (14) which do not belong to parataxis.

Returning to our case, the coordination identified possesses all the properties in (13) that are relevant for Chinese ((13c) and (13e) being beside the point due to the lack of inflectional morphology). Moreover, it is multiply headed with the consequent properties of parataxis in (14).

For meta-theoretical consideration of "markedness" mentioned earlier, we may reasonably assume that structure (4) associated with non-conjunction readings (Purpose being just one of them) belongs to the subordination (hypotaxis) in the syntax of Chinese, unless evidence otherwise indicates that it takes some other marked strucuture. (4) is singly headed with the properties in (14), as opposed to parataxis (but in line with serialization). We will not repeat the evidence, since it is just the opposite conclusions from the tests in (6), (7), (9), (11) etc., summarized above.

## 4. Distinguishing between Subordination and Serialization

There is still more to say about the subordinate structure in (4). The head of the predicate should be identified, which is usually where the the morphosyntactic locus is located (Zwicky 1985). Since the morphosyntactic locus is obscured by the meagerness of the inflectional morphology, we may rely on the semantic argument to determine the head of the verbs in series. According to meaning, VP2 is the head with the modifier VP1 in the case of the manner reading, and vice versa for the purpose reading.

Chao (1968: 326) proposes structure (4) as a SVC, because it is different from subordination in that the SVC rarely takes the subordinate particle *de* after VP1, which is unlike ordinary adverbial (and adjectival) expressions, which take *de*. Relevant examples are in (15), where (15a) and (15b) are our own examples.

(15) a. piaoliang de fangzi    AP + NP -> NP
  pretty de house
  'a pretty house'

b. gongzuo de difang　　VP + NP -> NP
work　de place
'a working place'

c. manman de pao　　AP + VP -> VP
slow　de run
'run slowly'

d. bu ting de ku　　VP + VP -> VP
not stop de cry
'cry incessantly'

e. xie de hao　　VP + AP -> VP
write de good
'write well'

f. xiang de liu lei　　VP + VP -> VP
think de flow tear
'miss with tears in eyes'

The heads of (15a) and (15b), for instance, are the NPs, preceded by adjectival modifers. The second VPs in (15c) and (15d) are the heads, following adverbial modifiers.[6] The subordinate structure in (2)/(4) is parallel to (15d) where VP1 is an adverbial modifer to the head, VP2. The difference is that while (2) cannot have *de* between VP1 and VP2 (*?Ni gui-xialai *de* qiu Zhang-san), (15d) must have *de* in between (*?*bu ting ku*.).

It is unconvincing to exclude (2)/(4) from subordinate structures only on the basis of such a distinction. As Chao notes, instances of VP + VP -> VP with VP2 as the head, as in (15d), are not many in Chinese (while the structure of (2)/(4) is productive.). Moreover, *de*'s are optional in other structures like (15b) and (15c), depending on the interaction among the grammatical components, especially morphology, syntax and phonology of the language.[7] However, a certain generalization can be made about the presence or absence of *de* in the structure of VP1 + VP2 with VP2 as the head. It seems that one of the necessary conditions on the presence of *de* is that VP1 has a proper modifier;[8] otherwise, *de* is absent.

(16) a. [manman baidong] de tiao　　[AP + VP]$_{VP}$ + VP
slow　swing　de jump
'jump with arms swinging slowly'

b. [zuo de haohao] de xie　　[VP + AP]$_{VP}$ + VP
sit de good　de write
'write with proper sitting posture'

c. [pao de hen kuai] de han　　[VP + AP]$_{VP}$ + VP
run de very fast de shout
'shout while running fast'

d. Ta gui de hen di de qiu Zhang-san.

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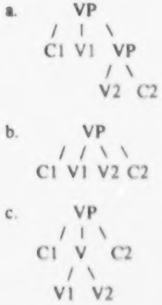
he kneel de very low de beg Zhang-san
'He knelt with his head lowed to beg Zhang-san.'

*de* must be present when VP1 and VP2 are in construction where VP1 has a proper modifier and VP2 is the head, as seen in (16a), (16b) and (16c). The issue bears on our case in (16d), which is modified from (2), where *de* has to be there. Without *de*, all of the expressions in (16) would be unacceptable. *de* is absent between VP1 and VP2 in (2) since VP1 *gui-xialai* lacks a proper modifier. We therefore conclude that the presence/absence of *de* is not a necessary condition on defining subordination.

Turning now to the distinction between subordination and serialization, the most convincing evidence for us to classify (2)/(4) into subordination/hypotaxis rather than serialization would be its internal syntax, for although (13) and (14) capture significant generalizations in distinguishing constructions in some African languages and no mater how hard we would try to draw on them, some of the items admittedly bear vaguely on the issue in Chinese, again because the language has no or little inflectional morphology to indicate GRs.

Zwicky (p.c.) suggests several possible structures for the verbs in series, as in (17), in which C1 and C2 stands for the semantic modifers or arguments of V1 and V2 respectively. By assuming that V1 is the head, (17a) is subordination, where V1 takes a phrasal (VP) complement, as the English $_{VP}[_{V1}$ would $[_{VP}$ visit relatives]]. Another possibility is the structure (17b), where V1 only takes a lexical complement (V2). The issue is whether V2 forms a syntactic constituent with C2. There is constituency in VP-complement construction in (17a). But the constituency is not warranted in a V-complement construction in (17b). Sometimes one even wants to claim that V1 forms a compound or a large morphological unit with V2, as in (17c) (to be discussed in section 6). A certain amount of freedom of ordering of sister constituents is possible, for, in case of manner reading in (2a'), the head V1 and the lower VP in (17a) should switch over the positions in Chinese.

(17)



There are consequences which follow from the constituency distinction between (17a) and (17b/c): No syntactic rules may refer to V2+C2 in (17b/c). Now we can safely assign (17a) to subordination, as in (17a') below, since the V2+C2 as a constituent VP2 participates in the VP2-fronting, as illustrated in (7). Structures of (17b) and (17c) are unwarranted for subordination, since given them the rule would have to refer to the non-constituent, the V2+C2 sequence.

```
(17)  a'.          VP
                 /     \
            V1          VP2
             |          / \
             |        V2   C2
             |         |    |
        gui-xialai   qiu   Zhang-san
        kneel down   beg   Zhang-san
```

Let us further suppose that C1 or C2 cannot intervene between V1 and V2 not only in (17c), but also in (17b), on the assumption that the ordering is strictly stipulated in the grammar at V [bar 0] level as they are for (17b) and (17c). The task now is to attest (17b) or (17c) in Chinese.

We now hypothesize that a real SVC in Chinese takes the structures in (17b) or (17c), for we shall demonstrate that the lai-construction seems to be syntactically distinct from the unmarked subordination (17a), and takes the marked strucuture (17b), or even (17c) (in section 5 and 6).

Before we discuss a case of SVC, we would like to briefly examine constructions similar to SVC. They are the coverb construction and the pivotal construction. Both appear to be verbal expressions in series. LT (p.98) explicitly deny that the coverb construction is a SVC; Chao (1968: 327) rejects the pivotal construction as a SVC. Here we will support their claims by examining the constructions in our framework. Specifically, we will check whether the apparent VP1 and VP2 in series have internal GR to each other, or whether VP2 can be fronted like (2)/(4), or whether some element can intervene between V1 and V2. A construction is subordinate if it passes one of these tests.

Coverbs are words which always take an object, and such coverb phrases precede the main verb (LT: 97). Coverbs comprise a listable set in Chinese, as in (18), with examples in (19), both being from LT (p.97).

(18) gei 'give'  yong 'use'  zai 'at, in'
dui 'to'  cong 'from'  ti 'in place of'

(19) a. Zhang-san [gei]$_{V1}$ wo [mai]$_{V2}$ yifu.
Zhang-san for me buy clothes

b. Zhang-san [yong]$_{V1}$ kuaizi [chi]$_{V2}$ fan.
Zhang-san use chopsticks eat rice

LT argue that coverbs are not main verbs, but rather are prepositions, functioning as case markers for NPs, much like the Benefactive, Instrumental or Locative cases in other languages. Also they cannot take certain aspectual particles and undergo morphological reduplication like ordinary verbs. For these reasons, LT (p.98) do not consider the coverb construction to be a SVC in their sense.

The coverb construction as a SVC is also unwarranted in our framework for the following reasons. The preposition-like coverbs indicate the internal GR between *wo* 'me' and *mai* 'buy' in (19a), although the GR is implicit morphosyntactically. Moreover, VP2 fronting is allowed, for instance, in (19b), *Chi fan, Zhang-san yong kuaizi*. This suggests that (19b) assumes the subordinate structure in (17a). Finally, the argument NP of *gei* 'for', *wo*, for instance, intervenes between V1 and V2 in (19a), against the ordering assumed above for SVC.

In Chao (1968: 327), a pivotal construction is composed of a series of verbal expression V1, a nominal expression, and another verbal expression V2, with the nominal expression serving both the object of V1 and the subject of V2, as in (20).

(20) a. Women [pai]$_{V1}$ ta [zuo]$_{V2}$ daibiao.
we assign he do representative
'We delegate him to be representative.'

b. Ta [qing]$_{V1}$ ni [bangmang]$_{V2}$
he ask you help
'He asks you to help.'

In Chao's definition, a SVC is different from the pivotal construction in that, in the former, V1 and V2 must have the same subject. To us, the pivotal construction is not a SVC for the same reasons as the coverb construction: an internal GR between VP1 and VP2, i.e., the NP *ta* 'he' in (20a) as both the object of V1 and the subject of V2, the possibility of fronting VP2, and the intervention of V1's argument *ta* between V1 and V2.

## 5. The Lai-Construction as a SVC

Since all of the constructions studied so far can be classified into subordinate or coordinate structures, one may doubt that Chinese has a SVC at all. In this section, we will analyze a construction belonging to the SVC in our sense, similar to the go-Verb construction in English, as in *You should go see a doctor today.*[8] We call it the lai-construction, for V1 in the construction is typically *lai* 'come' or *qu* 'go'. *lai* and *qu* are verbs, as they meet the major requirements of verbs in the language. Typically, they can function as a main verb in a sentence, take aspectual markers, and can undergo certain morphological processes typically applied to verbs such as reduplication for deminutative aspect (see more verbal tests in Dai (1990b: 12-14)), as in (21).

(21) a. Ta lai (le) liangci.
he come Perf. twice

b. Ta qu (le) liangci.
he go Perf. twice

c. Lai-yi-lai/qu-yi-qu
'come/go for a little while'

Examples of the lai-construction are provided in (22), (23) and (24).

(22) a. Ta lai shang ban.
he come go up shift
'He comes to work.'

b. Ban, ta lai shang.
c. *Shang ban, ta lai.

(23) a. Ta qu guang gongyuan
he go wander park
'He goes to see a park.'

b. Gongyuan, ta qu guang.
c. *Guang gongyuan, ta qu.

(24) a. Ta lai xuexi yingyu.
he come learn English
'He come to learn English.'

b. Yingyu, ta lai xuexi.
c. *Xuexi yingyu, ta lai.

The a-forms are of default word order, in which a subject *ta* is followed by V1, *lai* or *qu*, and V2 with its (object) argument. The b-forms illustrate that the topicalization preposes the object of V2 to the front. It follows that (22)-(24) are not parataxis, because if they were, the CSC would be violated. Supporting evidence is that phonological pause is prohibited between V1 and V2, for otherwise a conjunction reading would be enforced by the pause, causing a structural conflict between coodination and serialization.

The c-forms demonstrate that the VP2-preposing is not allowed, in contrast with hypotaxis in (25) and (26) where the preposing is allowed (An aspect marker *zhe* is added in (26b) for it to be acceptable. Also cf. (7)).

(25) a. Ta cheng che shang ban.
he take bus go up shift
'He takes a bus to go to work.'

b. Ban, Ta cheng che shang.
c. Shang ban, ta cheng che.

(26) a. Ta pao/zou shang ban.
he run/walk go up shift
'He goes to work by running/walking.'

b. Ban, ta pao/zou zhe shang.
c. Shang ban, ta pao/zou.

We note that the grammaticality judgements on the c-forms vary across speakers.

Some speakers (called group A) agree on the grammaticality status indicated above; some (group B) accept the c-forms in (22)-(24), in addition to (25)-(26); and some (group C) accept neither the c-forms in (22)-(24) nor in (25)-(26). But we have encontered no speakers who would accept the c-forms in (22)-(24) while rejecting those in (25)-(26). Without any context, however, the a-forms is the most natural for the speakers in group A and B, and the c-forms is the least, with the b-forms in between. Perhaps the c-forms in (22)-(24) are accepted by group B only in contrasting or listing events, as in the answer to a question about the presence of a person. We suspect that even group A may accept (27) in this context.

(27) Guang gongyuan, ta lai; shang ban, xuexi yingyu, ta bu lai.
wander park he come go up shift learn English he not come
'He comes to walk in the park, but not to work or learn Engish.'

This fact is reminiscent of definite NPs which are acceptable in the there-construction in English only in listing them, as in (28b) serving as an answer to the question in (28a):[10]

(28) a. - How many guests are there in your party?
b. - Well, there are Mary, the president, Bill, the Smiths ...

Grammaticality judgements on the c-forms in (22)-(26) are crucial in our analysis. If the grammaticality judgements on the c-forms of (22)-(26) are representative (or at least of certain dialects of Chinese, say, the speakers in group A), then (22)-(24) would be expected to have the structure in (29), (25)-(26) to have (30), the former being SVC in our hypothesis whereas the latter being hypotaxis. Given that the conditions on the VP2-preposing are met, as in (25c) and (26c), what seems to prevent "the VP2" from being preposed in the c-forms of (22)-(24) would be that in (29), V2 (*shang*, *guang* or *xuexi*) does not form a syntactic constituent with its own semantic object argument (*ban*, *gongyuan* or *yingyu*, respectively). The ungrammaticality of the c-forms in (22)-(24) would directly follow from the assumption that the VP2-preposing cannot apply because the rule must refer to syntactic constituents. (25c) and (26c) are acceptable, since the constituency condition is met, as in (30).

```
(29) cf. (17b)  VP
              / | \
            V1 V2  NP
            |   |   |
            lai shang ban
            qu guang gongyuan
            lai xuexi yingyu
```

```
(30) cf. (17a)    VP
              /   |   \
            V1    NP  VP2
            |     |  /  \
            |     | V2   NP
            |     |  |    |
            cheng che shang ban
            pao/zou   shang ban
```

Several morphosyntactic correlates to SVC are expected of (29). First, arguments or modifiers of V1 and V2 cannot intervene between V1 and V2. This would follow from the ordering of sister constituents stipulated at V [bar 0] level and is borne out in the examples below.

(31) a. Ta qu san xiaoshi le.
he go three hour Perf.
'He was away for three hours.'

b. Ta shang ban san xiaoshi le.
he go up shift three hour Perf.
'He worked for three hours.'

c. Ta qu shang ban le.
he go go up shift Perf.
'He went to work.'

d *Ta qu san xiaoshi shang ban (le).
he go three hour go up shift (Perf.)

In (31c), both V1 and V2 in series are modifier-free. When they are alone as main verbs in a sentence, they can take a post-modifier of time, as in (31a) and (31b) respectively. But this modifer cannot intervene between V1 and V2 in SVC, as in (31d), in contrast with the corresponding hypotactic cases in (32), which assumes the structure in (30), where such intervention is allowed, as in (32d).

(32) a. Ta pao/zou san xiaoshi.
he run/walk three hour
'He ran/walked for three hours.'

b. Ta shang ban san xiaoshi.
he go up shift three hour
'He worked for three hours.'

c. Ta pao/zou zhe shang ban.
he run/walk Asp shift Perf.
'He went to work by running/walking.'

d. Ta pao/zou san xiaoshi shang ban.
he run/walk three hour go up shift
'He needed three hours to run/walk to work.'

A preverbal modifier of V2, *haohao* 'seriously', for instance, seems to be able to intervene between V1 and V2 in (31c), contrary to the non-intervention condition, as in (33a). Similarly, the object argument of V1, *zher* 'here', can be placed between the two verbs, as in (33b).

(33) a. Ta qu haohao shang ban le.
he go seriously go up shift Perf.
'He went to work seriously.'

b. Ta lai zher shang ban le.
he come here go up shift Perf.
'He came here to work.'

Interestingly enough, however, these intervening elements makes (33) hypotactic rather than SVC, for the VP2 fronting appears to be allowed now, as in (34a) and (34b), as opposed to (22c).

(34) a. Haohao shang ban, ta qu le.
seriouly go up shift he go Perf.
'To work seriously, he goes.'

b. Shang ban, ta lai zher le.
go up shift he come here Perf.
'To work, he came here.'

The second correlate of the lai-construction to SVC is that, as mentioned earlier, V1 and V2 in SVC must agree in aspect, as in (35a), where *le* is assumed as a sentential aspect marker. But (35b) has two distinct aspect markers, which appears to be problematic for the SVC analysis. However, in this case, a phonological pause is obligatory between V1 and V2 (indicated by the comma in (35b)), which marks a coordinate structure instead in the language. Consequently, the CSC must be observed here; see (35c) and (35d) where the extractions are not allowed.

(35) a. Ta lai shang ban le.
he come go up shift Asp.
'He has come to work.'

b. Ta lai le, shang zhe ban.
he come Asp go up Asp shift
'He has comes and is working now.'

c. *Ban, ta lai le, shang zhe.
d. *Shang zhe ban, ta lai le.

As James Tai (p.c.) points out to us, either V1 or V2 of a subordinate structure can be independently negated by *bu* or *mei* or their variants in Chinese, as in (36), as opposed to (37) for SVC, in which the negator must be with V1 but not with V2. And this is the third correlate of the lai-construction to SVC.

(36) a. Ta zai tushuguan kan shu.
he at library read book
'He read books in the library.'

b. Ta bu zai tushuguan kan shu.
he not at library read book
'He is not in the library reading books.'

c. Ta zai tushuguan mei kan shu.
he at library not read book
'He is in the library but doesn't read books.'

(37) a. Ta bu/mei lai shang ban.
he not come go up shift
'He didn't come to work.'

b. *Ta lai bu/mei shang ban.
he come not go up shift

In fact, the prohibition of negation on V2 should be regarded as a feature of SVC, distinctive not only from hypotaxis but also from parataxis. An example in which negation is put on V2 in parataxis is provided in (38).

(38) Ta meitian du shu bu kan bao.
he everyday read book not see newspaper
'He reads books but no newspapers every day.'

Another interesting fact follows from the prohibition of negation placement on V2. As demonstrated in (33a) and (34b), the intervention of *haohao* makes (31c) hypotactic. We therefore expect the negation on V2 to be possible, which is indeed the case, as in (39).

(39) Ta qu mei haohao shang ban.
he go not seriously go up shift
'He went, but didn't work seriously.'

While (36) and (37) support the claim that the lai-construction differs from subordination, a potential problem arises: In (37a), V2 + object can be fronted, giving *Shang ban, ta bu/mei lai.*, which is contrary to the constituent structure in (29). However, the sentence is acceptable only in the context of contrasting or listing events, as mentioned above, while its subordination counterpart is not necessarily so, as in *Shang ban, ta bu pao/zou.*, modified from (26c).

Summarizing, the lai-construction is a SVC, since the V2 in series does not seem to form a syntactic constituent with its own arguments or modifiers as hypotaxis does. It follows that, in Chinese, hypotaxis, parataxis and serialization may be typologically diffrentiated with respect to the application of the syntactic rules of the topicalization of the object of V2 and the preposing of VP2, as below.

(40) a. Both the topicalization and VP2 preposing may apply in hypotaxis.
b. Neither the topicalization nor the VP2 preposing may apply in parataxis.
c. Only the topicalization, but not the VP2 preposing, may apply in serialization.

The putative structure of SVC also has the following morphosyntactic correlates: no intervention of arguments or modifiers of V1 and V2 between V1 and V2; the obligatory agreement in aspect marking of V1 and V2; and the obligatory attachment of negators to V1 rather than V2.

## 6. V1+V2 as a Morphological Word

In the last section, we suggested that V2 and its object in the lai-construction cannot be fronted like the VP2 in the subordination, because the V2 and its object do not form a syntactic constituent, and thus appear to take the structure in (29) rather than in (30). However, an alternaltive explanation seems to be available, and even preferable: a stronger claim could be made from the fact that nothing (neither the argument nor modifier of V1 or V2) may intervene between the verbs in serialization: in the lai-construction, V1 and V2 forms a compound,[11] thus taking the structure in (17)c, as in (41).[12]

```
(41)  cf. (17c)     VP
                   /  \
                  V    NP
                 / \    |
               V1   V2  |
               |    |   |
              lai shang ban
              qu guang gongyuan
              lai xuexi yingyu
```

If V1+V2 is a syntactic compound word, then the prohibition on the "VP2"-fronting in SVC can be directly accounted for by the Lexical Interity Hypothesis (Jackendoff 1972) or the Principle of Morphology-Free Syntax (Zwicky & Pullum 1986), i.e., no syntactic rules may refer to the internal structure of a word, for otherwise V2 as part of the compound word would be syntactically moved. Unfortunately, the intervention constraint merely makes the V1+V2 serial look like a compound,[13] which is NOT the case. The reason is that the V1+V2 here is NOT a syntactic word, since no evidence shows it is a minimal constituent like a V1+V2 compound syntactic rules would refer to in the language.

Zwicky (1990) claims that the intervention constraint on the go-Verb construction in English follows from the fact that the verbs in series form a large morphological unit, or a super-morphological word (henceforth supermoreme, as referred to by Zwicky). Below, we will argue for a parallel structure in Chinese. The V1+V2 here, though not a syntactic compound word, nevertheless forms a morphological word, for the constraint is so strict that even the inflectional aspect marker of V1 is not allowed, as in **Ta lai-le shang ban*.[14]

The phonology of Chinese supports the analysis of V1+V2 as a morphological word. V1+V2 participates in some word internal sandhi. Cheng (1973: 34) states a phonological rule Final Elision (FE), which optionally deletes the rime of a second syllable and resyllabifies its bilabial nasal onset as the coda of the first syllable, demonstrated in (42a/b).[15] Dai (1990c) extends the application of the FE to all bilabial stops as the onsets of the second syllable, as in (42c/d), and argues explicitly that the FE is a word internal sandhi,[16] for while the rule applies within a word in (42), it is blocked across a word boundary, as in (43), which is from Dai (1990c).

(42) a. wo-men --> wom b. ta-men --> tam
I PL 'we' he Pl 'they'

c. ba-ba --> bap d. jiu-bu qi-che --> jiup qi-che
dad 'dad' nine-Measure car 'nine cars'

(43) Ta meng le tou. --> *Tam le tou.
he mask Perf. head
'He has masked his head.'

In the case under discussion, we observe that, as in (44), where the onset of V2 in the lai-constuction is a bilabial, the FE applies, indicating the rule ignores the syntactic demarcation.

(44) a. qu-bu yi-fu --> qup yi-fu b. qu-bu yu --> qup yu
go mend clothes go catch fish
'go mend clothes' 'go catch fish'

c. lai-pu chuang --> laip chuang
come make bed
'come make bed'

Admittedly, the application of the FE only shows that V1+V2 in question forms one PHONOLOGICAL WORD, but never entails that the string is a morphological word. However, the FE suggests two things. First, the default relationship among syntactic word, phonological word and morphological word (Zwicky 1990) is overriden: "word" in the three components of grammar may not correspond to one another, and here we have two syntactic words mapping into only one phonological word. Second, there is possibility that one-to-one correspondence holds between phonological word and morphological word in our case.

Telling facts for V1+V2 as a morphological word must lie in the morphology proper of the language. Before proceeding, let us roughly define WORD below, as it is an ununified construct throughout the components of grammar (cf. Dai (1990b) and the references therein):

(45) SYNTACTIC WORD is a minimal syntactic constituent to which syntactic rules may refer; PHONOLOGICAL WORD is a certain prosodic domain in which phonological rules may apply (as opposed to external (or phrasal) sandhi rules); and MORPHOLOGICAL WORD is a certain domain in which morphological rules may apply.

Polish and Czech are among languages in which "word" may be defined by the location of stress in the phonology, and Latin and Miwok by the location of inflectional morpheme in the morphology (Dai 1990b: 11). Based on the assumption that an inflectional morpheme closes a morphological word, let us further assume the following without further argument:

(46) The aspect marker *le* or *zhe*[17] in Chinese is an inflectional morpheme which

closes a word (verb).

Now the data below indicates that *-le* can independently attach to V1 *lai* or V2 *chang* when they occcur alone respectively, as in (47a/b). When V1 and V2 are in SVC, however, only V2, but not V1, can be so suffixed, as in (47c/d). It follows from the assumption on morphological word in (45) and (46) that there is no morphological word boundary between V1 and V2 in serialization and that V1+V2 forms one morphological word.

(47) a. Ta lai-le liangci.
he come Perf. twice
'He came twice.'

b. Ta chang-le liangci.
he sing Perf. twice
'He sang twice.'

c. Ta lai chang-le liangci.
he come sing Perf. twice
'He came and sang twice.'

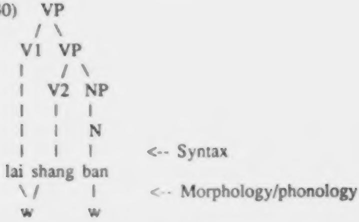
d. *Ta lai-le chang liangci.
he come Perf. sing twice

For the lai-construction to be licensed, the morphology-syntax co-satisfaction and interface links are needed in Zwicky's (1990) sense. The phonology also interfaces here.[8] The syntax would require conditions in relevant syntactic rules, i.e., the structure of (29); the morphology and phonology would require conditions on the lexemes V1 and V2 to be one morphological and phonological word. Here we have a mismatch between syntactic word and morphological/phonological word, a structure given in (48), where the upper part is the syntax, and the lower part the morphology and phonology (w = WORD).

```
(48)  cf. (29)    VP
                 / | \
              V1  V2  NP
              |   |   |
              |   |   N
              |   |   |       <-- Syntax
             lai shang ban
               \ /     |      <-- Morphology/phonology
                w      w
```

But we must point out one fault if the lai-construction assumes the syntactic structure in (48). A generalization is missed that V2 and NP in (48), or rather, V2 and its following sister constituent, ALWAYS form a syntactic VP constituent elsewhere in the syntax of Chinese, just the same as the verb and its following constituent do in the go-Verb construction in English (Zwicky, p.c.). Thus our choice in structures must shift from (48) to (49), the syntax of which assumes the structure in (17a) or (30), the subordinate construction.

(49) cf. (17a/30)



Now that V2 and its object NP forms a constituent, what really prevents the VP(2)-fronting from applying? The answer is that the blocking is from both the morphology and phonology: the VP-fronting would result in a morphological and phonological discontinuity of word, a big offense to the integrity of word.

## 7. Conclusion

In this paper, three distinct syntactic constructions have been identified from the serial verb expressions in Chinese: coordination, subordination and serialization. Below are summarized the typological similarities and differences among the three constructions in Chinese, where + and - represent "possible" and "impossible" respectively.

| (50) TYPOLOGY | Coordination | Subordination | Serialization |
|---|---|---|---|
| Syntax | | | |
| Presence of V1 object | + | + | - |
| Extraction of V1 object | - | + | - |
| Extraction of V2 object | - | + | + |
| Extraction of VP2 (V2+object) | - | + | - |
| Negation on V2 | + | + | - |
| A-not-A question with V1 | - | + | + |
| Alternative question with V2 | + | - | + |
| Semantics | | | |
| More than one assertion | + | - | - |
| Morphology | | | |
| Asp.disagreement btwn V1 & V2 | + | - | - |
| Asp. marking on V1 | + | + | - |
| Phonology | | | |
| Pause between V(P)1 & V2 | + | - | - |
| FE sandhi between V1 & V2 | - | - | + |

Most importantly, coordination is syntactically separated from subordination and serialization with respect to its sensitivity to the CSC. Serialization differs from subordination in that, in the former, but not in the latter, the application of the VP2-fronting rule is blocked. The account for the blocking lies in the fact that V1+V2 in serialization makes one morphological and phonological word, which is in turn predicted by the Lexical Interity Hypothesis (Jackendoff 1972) or the Principle of Morphology-Free Syntax (Zwicky & Pullum 1986). And needless to say, the two notions largely cover the strict intervention constraint on V1+V2 in the SVC, as no syntactic material may interrupt a word.

## Notes

* An earlier version of this paper, "Reclassification of Serial Verb Expressions in Mandarin Chinese", was presented at The Ohio State University Mini-Conference on Serial Verbs, held on May 26-27 in Columbus, Ohio. Thanks go to the participants of the Conference, especially to Brian Joseph, James McCawley, Mark Libucha, Salikoko Mufwene, Eric Schiller, James Tai and Arnold Zwicky for their comments on and criticisms of the earlier presentations of this paper.

1. Henceforth, we would like to simply use "Zwicky" to refer to this informal and unpublished lecture manuscript for a couple of advanced syntax courses (1987-89) at the Ohio State University, without listing it in References of this paper.

2. There is generally no functional word between the two verb phrases indicating the GR in the three constructions, unless overtly marked in this paper.

3. (9a) shows that *bushi* may single out the coordination, supporting evidence being that no extraction is allowed. Noonan (1985: 77) observes that each clause may be independently negated in parataxis, whereas with serialization only one negative is allowed and has the entire construction as its scope (cf. note 5 and section 5). But the negation of V1 by *bu* in (9b) is not a sufficient condition on defining SVC in Chinese, for V1 in parataxis, hypotaxis and serialization can each be negated. We will later show that the sufficient negation condition would be:

(i) Either V1 or V2 can be negated by *bu* in parataxis and hypotaxis.
(ii) Parataxis and serialization can be negated by *bushi* on V1.
(iii) Only in SVC can't V2 be negated.

4. Chao (1968: 325) claims that the SVC is like coordination in that it can be usually reversed and remains grammatical, but differs from it in not being reversible without involving a change in sentence meaning. In our analysis, however, both are coordination for their sensitivity to the CSC. Thus, Chao's "SVC" is the consecutive action reading of coordination; his "coordination" is associated with the non-consecutive action readings. To us, the only syntactically and semantically reversible structure is the coordination associated with the interpretations of alternating action and simultaneous action. For example, (2) with the coordination in (5) and with the alternating reading in (2d), repeated below, is syntactically and semantically reversible, as in (2'), basically maintaining the original syntax and truth conditions.

(2) Ni gui-xialai qiu Zhang-san.
you kneel down beg Zhang-san
(2) d. 'You knelt down and begged Zhang-san.'

(2') Ni qiu Zhang-san gui-xialai.
you beg Zhang-san kneel down
'You begged Zhang-san and knelt down.'

The coordinate structure with consecutive reading is syntactically reversible but with a probable change in meaning; and the reversibility of internal structures of subordination depends on the syntactic rules of the language (For instance, (2)/(2a)/(4) is syntactically irreversible in Chinese.).

5. It should make clear here that V2 in both parataxis and hypotaxis can in principle be independently negated in Chinese, in contrast to SVC, where negation on V2 is disallowed (cf. note 3 and section 5).

6. Recent literature has hot debates on which constituent is the head in (15e) and (15d). We have no intention of becoming involved in the issue here, for our main concern is the presence/absence of *de* between the head and modifier. Following the classical view, we assume that the heads in (15e) and (15f) are the first VP, followed by resultative modifiers.

7. We will not explore all types of conditioning here, but refer interested readers to Dai (1990a) for the discussion.

8. It remains to be worked out what "proper" modifiers are. At this point, the modifiers cannot be directional adverbials like *xia-lai* 'down come' in (2) at least.

9. A couple of statements should be made clear before proceeding. First, we are not claiming that the lai-construction in Chinese and the go-Verb construction in English are the same. But they are similar at least in some respects. For instance, the basic lexical semantics of V1 is the same, i.e., *lai* 'come', *qu* 'go' etc. It is interesting to see languages making use of go/come-expressions for SVC. Moreover, there is strict non-intervention condition on both constructions (to be discussed). Second, in this pioneer study of SVC in Chinese, the lai-construction will be claimed as one type of SVC. The door is certainly open for exploring other types of SVC in the language. Third, the lexeme *lai* or *qu* may occur in similar constructions. The syntactic relationship among them is worth examination (Tai, p.c.), e.g., *lai shang ban* [go-up-shift] vs. *shang ban lai [up-shift-go]*. But we won't explore the topic here because of the scope of this paper.

10. Perhaps (28) and (29) are cases of "mentioning" rather than "using" language discussed in the literature.

11. cf. Chao (1968) claims that if two verbs in series are both monosyllabic and takes no objects, then they should be analyzed as compounds, although he gives no evidence for his claim.

12. In (37), V branches into V1 and V2, which is morphological structure of word, rather than syntactic structure. But this is only for illustrative convenience, by no means implying that we assume the notion that "morphology is the syntax of word" and the like.

13. Examples of syntactic compounds are *television table* in English, and *sheng zhang* [be born - grow] 'grow' in Chinese.

14. This might follow from one of the six characteristics we would expect a supermoreme to exhibit: reference to shape (Zwicky 1990), i.e., the lai-construction requires the base form for V1.

15. Perhaps the observation is due to Chao (1968) or even earlier researchers.

16. More conditions must be put on the application of the FE than observed by Dai (1990c) and in the traditional literature. For example, the sandhi does not seem to work if the vowel of the second syllable is a front vowel, nor if the V2 in the SVC is bisyllabic. We won't explore these conditions in detail, since they do not affect our argument here.

17. Here *-le* is a perfective marker attached to a verb, in contrast to the homophonous *le* at the sentence-final position, as in (35a), which marks a "current relevant state" (Li & Thompson 1981: 242). The progressive marker *-zhe* never attaches to *lai* or *qu*, due to the semantic incompatibility between them in Chinese, and therefore we won't use it as an example for the following discussion.

18. The phonology-syntax interface should be considered as secondary, since the FE is an optional rule.

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# Serial Verbs in Colloquial Arabic

By
Lutfi Hussein
The Ohio State University

## Introduction

Verb serialization in Arabic has been rarely and always very briefly discussed in the linguistic literature (see Denz, 1971; Jiha, 1964; Mitchell, 1978; Sieny, 1978; Versteegh, 1984). None of these scholars attempt to provide any evidence for, classification of, or analysis of serial verb constructions (SVCs henceforth) in any variety of Arabic. Rather, they tend to cite their "existence" as an example to support syntactic or historical arguments of some kind. For example, Versteegh (1984) states that "in most Arabic dialects we find a phenomenon of verbal construction that bears a striking resemblance to what is called 'verbal serialization' in pidginized languages" (PP. 99-100). Versteegh uses what he calls a serial-verb-like construction to support the view that Arabic dialects may have come about as a result of pidginized, creolized, and finally decreolized processes. Other scholars such as Jiha (1964) and Denz (1971) view these SVCs as having auxiliary or semi-auxiliary verbs that express various meanings. Therefore, a clear definition and classification for SVCs in Arabic have not yet come about. Indeed, most scholars who have dealt with this issue tend not to distinguish between SVCs and other surface-like asyndetic constructions such as coordination, subordination, and infinitival constructions.

Perhaps one reason for the lack of attention to SVCs is that they have been associated with the colloquial varieties of Arabic. Neither Modern Standard nor Classical Arabic seems to have serial verbs of any form. It is not surprising then that they (SVCs) have not received enough attention since most of the research, especially in the past, has been devoted to the description and analysis of Standard and/or Classical Arabic.

In this paper I will discuss serial verb constructions in one colloquial variety of Arabic only --Palestinian Arabic (referred to henceforth as colloquial Arabic or just Arabic). In particular, I will argue (1) for their existence as independent constructions, (2) provide a classification based on some of the syntactic and semantic properties that these constructions have, and (3) discuss their distribution in this dialect. It is my belief, based on the data I collected from various dialects, that this analysis represents the status of SVCs in most colloquial varieties of Arabic.

## Serial verbs in colloquial Arabic

Several descriptions of SVCs have demonstrated that there is no single universal criterion which can exclusively define them cross-linguistically. This can be seen in the works of Li and Thompson, 1973; Isaac, 1975; Crowley, 1987; Sebba, 1987, just to mention a few. However, SVCs seem to share some common characteristics that make them distinct from the rest of verbal constructions in verb serializing and non-serializing languages. For example, it is not likely to have two consecutive verbs separated by a coordination or subordination marker as SVCs in any language. In such cases they are usually considered coordinate and subordinate constructions, respectively. Both of these constructions are supposed to be syntactically and/or semantically different from SVCs.

In addition to sharing some cross-linguistic properties, some SVCs tend to have language-specific characteristics that distinguish them from other SVCs in other languages and from other constructions in the same language. Serial verbs in Arabic, like most SVCs, share some of the "universal" syntactic and semantic properties with other SVCs in other languages, and have their own "exclusive" properties. In this section, I will argue for their existence in colloquial Arabic and try to provide a set of criteria that will define them.

Examples (1) to (8) provide a set of SVCs in colloquial Arabic.[1],[2] (Each example is given with a morpheme-by-morpheme segmentation on the following line followed by a morpheme-by-morpheme gloss on the third line and the English equivlant on the last line. Such detailed representation was redundant in some of the examples given later in text, and thus it was not provided. Note that 0 stands for zero morpheme.)

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[1] The transcription used in this study is phonemic and the symbols used are mostly those of the International Phonetic Alphabet. Those that differ from the IPA are:
Superscripted /$^{c}$/ indicates voiced pharyngeal fricative
A dot under /ḥ/ indicates voiceless pharyngeal fricative
Double consonants indicate consonant length or gemination
/j/ indicates voiced palatal affricate
Underlining indicates pharyngealization.

[2] Imperative forms are recognized in this dialect by (1) verb-interal vocalic changes; (2) absence of the person marker for the second person masculine singular form; and (3) either dropping a radical from the root or adding the prefix /ʔi/, depending on the verb class, to indicate the imperative mood. /i/ in /ʔi/

(1) xud ?išrab l?ahwe
0-?xd (root)-0 ?i-šrb (root)-0 l-?ahwe
imp-take-2sg imp-drink-2sg the-coffee
Take the coffee and drink it!

(2) ru:ħ ji:b ?axu:k min lja:m$^c$a
0-ru:ħ-0 0-ji:b-0 ?axu-uk min l-ja:m$^c$a
imp-go-2sg imp-get-2sg brother your from the university
Go get your brother from the university!

(3) $^c$a:d ?alli ?innu ?ištara sayya:ra
$^c$a:d-0 ?al-0-l-i ?innu ?ištara-0 sayya:ra
came back-3sg told-3sg-to-me that bought-3sg car
He told me again that he bought a car.

(4) ha:t ?a$^c$ṭi:ni likta:b
0-ha:t-0 0-?a$^c$ṭi-0-:ni l-ikta:b
imp-give-2sg imp-give-2sg-me the book
Give me the book!

(5) ?aju ra:ħu sa?alu:ni ?iza biddi ?atjawwaz
?aj-u ra:ħ-u sa?al-u-:ni ?iza bidd-i ?atjawwaz
came-3pl went-3pl asked-3pl-me if wanted-1sg (to) marry
They asked me if I wanted to get married.

(6) ta$^c$a:l ?ijri
0-ta$^c$a:l-0 ?i-jri-0
imp-come-2sg imp-run-2sg
Come quickly/Come running!

---

changes in some verbs to /u/ as a result of vowel harmony. For sake of simplification, however, I will be using the imperative form instead of the root in the rest of the examples given in this paper.

(7) ma$^{c}$ kull ha ddira:sa, ?a:m rasab
ma$^{c}$ kull ha ddira:sa, ?a:m-0 rasab-0
with all this study stood up-3sg failed-3sg
Despite all this work (studying), he failed

(8) ma$^{c}$ kull ha ššarḥ, bi:ji bi?u:l ?innu miš fa:him
ma$^{c}$ kull ha ššarḥ, b-i:ji-0 b-?u:l-0 ?innu
with all this explanation(s) pres-come-3sg pres-say-3sg that
miš muhim
not understanding
Despite this (thorough) explanation, he still says that he does not understand

All these examples have, as we will see later in the paper, serial verb constructions that consist of two or more verbs. Some of these constructions are in the imperative such as examples (1), (2), (4), and (6); some are in the perfect such as (3), (5), and (7); and example (8) is in the imperfect.

Common among all these examples are the following characteristics which apply to many SVCs in several languages:

1. Two or more verbs occur in the same clause that are asyndetically juxtaposed without any overt coordinate or subordinate markers in between.
2. All verbs in each string share the same subject.
3. All verbs in each string share the same tense and mood.
4. Actions in some constructions such as (6) (i.e., come running) are perceived as simultaneous and others such as (1) (i.e., take the coffee and drink it) are consecutive.
5. Negation is always marked on the first verb in the string and applies to the whole string. Thus, in negating examples (1) and (3), for example, we get

   (1)' (ma) ta:xudiš tišrab l?ahwe
   ma ta-xud-0-š ti-šrab-0 l-?ahwe
   not imp-take-2sg-not imp-drink-2nd sg the-coffee
   Don't take the coffee and drink it!

(3)' ma $^c$adš ?alli ?innu štara sayya:ra
ma ca:d-0-š ?al-0-l-i ?innu štara syya:ra
not come back-3sg-not tell-3sg-to-me that bought 3sg car
He did not tell me any more that he bought a car.

6. The two verbs are not separated by any intonational or clause boundary markers of any kind.
7. Each verb in the string can be a full verb on its own in an independent clause.
8. Each string of verbs in each sentence tends to express what seems to be a single event.

All these features indicate that these constructions are not different from the known SVCs found in verb serializing languages. However, to establish that they are indeed SVCs we need to distinguish them from other paratactic and hypotactic structures in Arabic that may look on the surface the same as these constructions. In what follows I will provide three syntactic and semantic arguments that will distinguish the constructions given in the above eight sentences from the paratactic structures. Further arguments will be given in a later section to distinguish them from hypotactic structures.

### (i) Leftest Location

When a NP is moved to the beginning of a sentence in Arabic a resumptive attached pronoun is added to the transitive verb or an independent pronoun is inserted in the object position to replace the moved NP. Thus, in (9b) and (10b) where the NPs /likta:b/ "the book" and "Columbus" have been moved to the beginning of the sentence the pronouns /?iyya:/ "it" and /-ha/ also meaning "it" are added to replace the moved NPs. The choice of /?iyya:/ or /-ha/ is determined by the verb. Some verbs subcategorize for /?iyya:/ and others subcategorize for an attached pronoun such as /-ha/, /-hum/, /-u/, etc.

(9) a. ?a$^c$ṭi:ni likta:b
0-?a$^c$ṭi-0-ni l-ktaab
imp-give-2sg-me the book
Give me the book!

b. likta:b, ?a$^c$ṭi:ni ?iyya:
likta:b, 0-?a$^c$ṭi-0-ni ?iyya:
the book, imp-give-2sg-me it
The book, give it to me!

(10)a. ?ana baḥib Columbus
?ana b-?aḥib Columbus
I pres-like Columbus
I like Columbus.

b. Columbus, ?ana baḥibha
Columbus, ?ana b-aḥib-ha
Columbus, I pres-like-it
Columbus, I like it.

Dropping the resumptive pronoun in either sentence results in ungrammatical sentence. Thus, both (9)' and (10)' are ungrammatical.

*(9)' likta:b ?a$^c$ṭi:ni
The book, give me

*(10) Columbus, baḥib
Columbus, I like.

Applying the same movement to SVCs in Arabic that look on the surface similar to coordinate structures, as is the case with (1), shows that they are, in fact, independent verbal constructions that are not and cannot be considered coordinate structures. In sentence (1) (repeated here for convenience as (1)").

(1)" xud ?išrab l?ahwe

the NP /l?ahwe/ can be fronted and a resumptive pronoun should be added to the verb /?išrab/ "to drink". Thus, the sentence becomes

(11) l?ahwe, xud ?išrabha

Adding the resumptive pronoun to the verb /xud/ "take", which is also a transitive verb in the same construction, results in an ungrammatical structure as is clear in (13).

*(13) l?ahwe, xudha ?išrab

By contrast, applying the movement to a coordinate structure that has the same verbs /xud/ and /?išrab/ results in ungrammatical construction if the resumptive pronoun is not attached to both verbs. Thus, sentences (14) and (15) are ungrammatical while (16) is grammatical.

*(14) l?ahwe, xud w išrabha
The coffee, take and drink it
*(15) l?ahwe, xudha w išrab
The coffee, take it and drink
(16) l?ahwe, xudha w išrabha
The coffee, take it and drink it

Comparing (16) with (11) shows that the two verbs in (11) act as one unitary verbal construction (i.e., one constituent) that takes one object, while the two verbs in (16) act as two independent verbal constructions where each takes its own object.

We conclude from this argument that serial verb constructions are not reduced coordinate structures. Rather they are independent constructions that differ in their syntactic structure from the coordinate ones though they may on the surface look alike.

### (ii) Negation

As indicated before, it is only the first verb of the string in a SVC that carries the negation marker(s), and that the scope of negation extends to the whole string. This can be seen in sentences (1)' and (3)' given above. Adding negation markers to other verbs in the string results in ungrammatical structures. Thus, sentences (17) and (18) are not acceptable.

*(17) (ma) ta:xudš (ma) tišrabš l?ahwe
ma ta:-xud-0-š    ma ti-šrab-0-š    l-?ahwe
not imp-take-2sg-not    not imp-drink-2sg-not    the coffee
*(18) ma $^{c}$adš ma ?alli:š ?innu štara sayya:ra
ma $^{c}$ad-0-š    ?al-0-l-i-š    ?innu štara-0
not came back-3sg-not    told-3sg-to-me-not    that bought-3sg
sayya:ra
car

By contrast, negating the first verb in a coordinate structure does not apply to all verbs in the sentence. Also, negating either verb in a coordinate structure or both verbs does not result in ungrammatical sentence. It does, however, result in a change in meaning. Thus, each of (19), (20), and (21) has a different meaning.

(19) (ma) ta:xudš l?ahwe wtišrabha
Don't take the coffee and drink it!

(20) xud l?ahwe w (ma) tišrabha:š
Take the coffee and/but do not drink it!

(21) (ma) ta:xudiš l?ahwe w (ma) tištrabha:š
Don't take the coffee and don't drink it!

This outcome then confirms the conclusion reached in the previous argument that SVCs act as one unit and thus have one negation marking, but coordinate structures can have either one or many negation markings depending on the intended meaning. The fact that multiple negation markings are allowed indicated that verbs in coordinate constructions are independent of one another unlike those in SVCs.

### (iii) Meaning

One of the traditional arguments that linguists cite in order to distinguish between SVCs and single-verb or coordinate constructions is the meaning difference created when we transform one construction into the other. This difference in meaning can be seen in each of the eight examples given above when we transform them into a single-verb or a coordinate construction. If we drop /xud/ in example (1), the meaning no longer indicates a consecutive act; if we drop /ru:ħ/ in (2), we drop the sense of purpose that the sentence conveys; if we drop /$^{c}$a:d/ in (3), the sentence no longer conveys a repetitive act; if we drop /ha:t/ in (4), the act of requesting is no longer emphasized; if we drop /ra:ħu ?aju/ in (5), the sense of inception/instantaneity indicated by these verbs is gone, and so on.

Similarly, there is usually a semantic difference between SVCs and coordinate or subordinate constructions. For example, inserting the conjunct //w// meaning "and" after /$^{c}$a:d/ in sentence (3) changes the meaning from "He told me again that he bought a car" to "He came back and told me that he bought a car." This change obviously provides strong evidence which shows that the SVCs exemplified in the first eight sentences differ from those of coordinates structures. It argues for the existence of SVCs in colloquial Arabic as independent constructions of their own.

These are some of the syntactic and semantic arguments that can be given in support of the existence of SVCs in Arabic. In the following section I will attempt to provide a classification for these constructions and discuss their distribution in this dialect.

### Serial verb types in Arabic

Again there is no single "universal" criterion that can be used to classify serial verbs cross-linguistically. Criteria for classification seem to differ from one language to another depending on the characteristics shared by the various subgroups of serial verbs in that language, and the theoretical approach/orientation of the linguist conducting the analysis. In general, classification of serial verbs tend to be based on either syntactic or semantic criteria or both. Sebba (1987) classifies SVs in Sranan according the whether they are fixed or free, transitive or intransitive, and the type of complement they take. Issac (1975) provides a classification in West African languages based on the semantic notions conveyed by these verbs. Crowely (1987) divides serial verbs in Paamese into nuclear versus core layer serial verbs. Other scholars classify them according to the relationship they hold with their arguments, that is, whether both verbs in the construction have the same subject, switch subjects, or have multiple objects.

Serial verbs in Arabic are all fixed in $V_1$ position with the exception of the verb /?ijri/ meaning "run". Also, all the verbs are intransitive except for the verbs /ha:t/, meaning "give" and /xud/ meaning "take". The classification in this section will be based on some syntactic and semantic criteria that these SVs in Arabic share.

### 1. Verbs that function as adverbs

This group includes one verb only, /?ijri/ meaning "run". It is used in imperative constructions to mean "quickly" with the verbs /ru:ħ/ meaning "go," /ta$^c$a:l/ meaning "come," and the verb /?irja$^c$/ meaning "come back". Examples (22) and (23) illustrate the use of this verb.

(22) taᶜa:l ?ijri
imp come 2sg imp run 2sg
Come quickly!

(23) ru:ḥ ?ijri
imp go 2sg imp run 2sg
Go quickly/running!

Comparing these with Standard Arabic, we find that Standard Arabic uses the verbal noun /jaryan/ meaning "running," which in this context functions as an adverb of manner. It is also important to note that /?ijri/ maintains its categorical status as a verb. It is not a homophonous adverb to a verb. It conjugates in the SVC as provided in (6) according to the number and gender the way all verbs of its class do. It also carries the negation marker whose scope extends to all the string like all serial verbs do. This group of serial verbs is not productive in Arabic; it is limited to the three verbs mentioned above.

2. Serial verbs that express aspect

The verbs /ra:ḥ/ "to go", /?aja/ "to come", /?a:m/ "to stand up", /?aᶜad/ "to sit down", /ᶜa:d/ "to return", and /radd/ "to stop, return" are used in SVCs to express various aspects. For example, the verbs /ra:ḥ/, /?aja/, and /?a:m/ can be used to express either instantaneous, inceptive, or ingressive aspect depending on the verb that follows in the SVC. Sentence (5) expresses the inceptive aspect, and sentence (7) expresses the ingressive aspect. The verbs /ᶜa:d/ and /radd/ are used to express repetitive/frequentative aspect; they indicate that the act has been frequently occurring in the past. Sentence (3) exemplifies this category. Relevant to this point is the fact that aspectual role tends to interact with negation. When a sentence like (3) is negated the role of /ᶜa:d/ shifts from a frequentative aspect to a terminative one.

This type of serial verbs is very productive. It can be used in the past tense as sentences (3), (5), and (7) indicate, and in the imperfect as sentence (8) indicates. $V_1$ in this construction is always fixed but the verb occupying the position of $V_2$ varies.

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It is important to note that the number of verbs included in this type of construction is not limited to two as it is generally the case with other types. They can be two, three, four, or even more. Examples (24a, b, and c) illustrates this phenomenon.

(24) a. ra:ħ na:m
ra:ħ-0 na:m-0
went-3sg slept-3sg
He went to bed.

b. ?aja ra:ħ na:m
came 3sg went sg slept 3sg
He went to bed.

c. ?a:m ?aja ra:ħ na:m
stood up 3sg came 3sg went 3sg slept 3sg
He went to bed.

The first verb of these strings is the one that conveys the inceptive/instantaneous aspect. The rest, I think, are semantically empty. In other words, limiting the construction to one of the verbs /ra:ħ/, /?aja/, or /?a:m/, or incorporating more than one does not seem to add or alter the meaning of the sentence. Neither does it change the aspect.

### 3. Verbs used to express emphasis

I am using the term emphatic in this context for the lack of a better one to describe this type of construction. SVCs of this type consist of two or more serial verbs juxtaposed in one string to convey a sense of urgency intended by the speaker. The examples in (25) illustrate this phenomenon.

(25)a. ru:ħ ji:b ?axu:k
0-ru:ħ-0 0-ji:b-0 ?axu-uk
imp-go-2sg imp-bring-2sg brother-your
Go get your brother!

b. ru:ħ ?imši ji:b ?axu:k
0-ru:ħ-o ?i-mši-0 0-ji:b-0 ?axu-uk
imp-go-2sg imp-walk-2sg imp-bring-2sg brother-your
Go get your brother!

c. ru:ħ ?imši ?ins̱rif ji:b ?axu:k
0-ru:ħ-0 ?i-mši-0 ?i-ns̱rif-0 ...
imp-go-2sg imp-walk-2sg imp-take-off-2sg imp bring 2sg...
Go get your brother!

The only difference between (25 a, b and c) that a person can think of is that of intensity. That is, the more verbs there are in the construction the more emphatic and urgent the act is. Syntactically, however, all the serial verbs in the string tend to make one constituent that cannot be interrupted by any insertions. Thus, inserting the prepositional phrase /$^{c}$ala lmadrasa/ meaning "to school" after /ra:ħ/ is (25a) maintains the grammaticality of the sentence, but inserting it after /ru:ħ/ in (25 b or c) results in unacceptable construction. However, inserting it after /?imši/ in (25b) and after /?ins̱rif/ in (25c) does not yield ungrammatical construction. This test indicates that /ru:ħ ?imši/ in (25b) and /ru:ħ ?imši ?ins̱rif/ in (25c) are "unbreakable" and should be taken as one syntactic unit.

The verbs used in this construction are limited to motion verbs, the dative verb /ha:t/ "to give", and /xallis̱/ "to finish". Thus, it is not a productive set.

4. Consecutive verbs

The most natural way to read some serial verbs such as those in (1) is as consecutive. Arabic has at least two serial verbs /xud/ "to take" and /?irja$^{c}$/ "to return/come back" that tend, along with other free verbs, to form this construction. Sentences (26) and (27) exemplify this phenomenon.

(26) ?irja$^{c}$ ?uskun ma$^{c}$na
?i-rja$^{c}$-0 ?u-skun-0 ma$^{c}$-na
imp-come-back-2sg imp-live-2sg with-us
Come back and live with us!

(27) xud ḏubb liflu:s
0-xud-0 0-ḏubb-0 l-flu:s
imp-take-2sg imp-keep-2sg the-money
Take the money and keep it!

As argued earlier through the leftest location, negation, and meaning, these constructions are syntactically different from coordinate structures despite the fact that they may look similar and convey similar meaning. This type is very productive in Arabic. Numerous free verbs can concatenate with either /xud/ or /?irjaᶜ/ to form this construction. It is limited, however, to the imperative mood.

## 5. Serial verbs used to express purpose

Some SVCs can be read as expressing purpose. Examples (28) and (29) illustrate this reading.

(28) ru:ħ ᶜala lmustašfa šu:f ?ibnak
0-ru:ħ-0 ᶜala l-mustašfa 0-šu:f-0 ?ibn-ak
imp-go-2sg to the-hospital imp-see-2sg son your
Go to the hospital to see your son!

(29) taᶜa:l zu:rni fi lbe:t
0-taᶜa:l-0 0-zu:r-0-ni fi l-be:t
imp-come-2sg imp-visit-2sg-me at the home
Come (to) visit me at home!

The fixed serial verbs used in these examples are /ra:ħ/ "to go", /taᶜa:l/ "to come" and /?irjaᶜ/ "to come back". According to Sebba, there is a cross linguistic tendency to interpret complements following these verbs as expressing purpose. Data from Arabic seem to support this tendency.

The question remains as to whether these constructions are actually SVCs or subordinate ones. Some arguments can be given in support of the view that they are indeed SVCs. First, an overt subordinate marker such as /ᶜaša:n/, which functions basically as infinitival "to" in English, tends to initiate a purpose clause when the verb in the upper clause indicates motion. This subordinate marker can be deleted without causing any changes in the meaning of the sentence. Examples in (30) illustrate this phenomenon.

(30)a. ruħt ᶜaša:n ?ašu:f Najim
ruh-t ᶜaša:n ?a-šu:f Najim
went-1sg (in order) to 1sg-see Najim
I went to see Najim.

b. ruħt ?ašu:f Najim
ruħ-t ?a-šu:f Najim
went-1sg 1sg-see Najim
I went to see Najim

By contrast, this overt marker does not appear in SVCs. If an attempt is made to insert it in SVCs, the following verb changes to the subjunctive mood, regardless of what mood it had in the first place. This leads to the second argument, that verbs intended to express purpose are always in the subjunctive mood. They cannot have the same mood nor the same tense as that of the first verb in the upper clause. Third, it is possible in a subordinate clause such as (30 a and b) to negate either verb in the sentence. However, negating the verb in the upper clause operates over the verbs in the subordinate clause as well, but negating the verb in the subordinate clause does not cover all the verbs in the sentence. Thus, the meaning of the sentence changes according to which verb has been negated.

By contrast, negation markers in SVCs should be placed on the first verb in the string. The scope of negation extends to all the verbs in the string. Attempts to negate other verbs in the string result in ungrammatical sentences. Fourth, there is always a difference in meaning between the SVCs and subordinate structures though they may look similar on the surface.

To summarize, there are five types of SVCs in Arabic. (1) constructions in which serial verbs have been re-analyzed to function as adverbs; (2) verbs that express various aspects; (3) verbs that are used to express emphasis; (4) verbs viewed as conveying consecutive actions; and (5) verbs viewed as expressing purpose. SVs in all these types occupy $V_1$ position in the string with the exception of the first type where the order is free.

## Conclusions

It has been shown that SVCs are common in colloquial Arabic. These constructions share many of the characteristics of SVCs in verb serializing languages, and have some of the characteristics that distinguish them from paratactic, hypotactic, and single-verb constructions in Arabic. They can be classified into the five categories indicated above.

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# Serial Verb Constructions in Categorial Grammar*

Katherine A. Welker
The Ohio State University

## 1.0. Introduction

This paper provides analyses within the categorial grammar framework of a number of constructions that have been labeled serial verb constructions.[1] The constructions analyzed occur in Sranan and Yoruba, and the data on which I based the analyses are from Sebba (1987), George (1975) and Lawal (unpublished paper, and personal communication). I focus on properties of serial verb constructions that are especially relevant to the theory of categorial grammar.

## 1.1. Overview of Categorial Grammar

There are a number of features of categorial grammar that are significant for the treatment of serial verb constructions. First, unlike most syntactic theories, categorial grammar contains only a very limited number of syntactic rules. Most versions of the theory contain three basic rules: function-argument application, functional composition, and typelifting. (Other rules that have been proposed are generally similar to these in nature.) Of these rules, the only one I'll refer to in this paper is function-argument application. Second, each syntactic rule in categorial grammar is parallel to a semantic operation of the same kind. For example, a rule of function-argument application in the syntax corresponds to function-argument application in the semantics. The meaning that results from function-argument application is determined by the meaning of the words involved. Most of the information about how specific categories of words eventually combine with other categories of words to form syntactic structures is contained in the lexical category specification of the words themselves; that is, lexical categories of words contain information about what categories of words they combine with, what the resulting category is, and what semantic relation the categories being combined stand in to one another. This is information that in other theories is found for the most part in phrase structure rules.

## 1.2. Overview of Serial Verb Constructions

In analyzing serial verb constructions, I took as a starting point the definitional criteria from Sebba (1987: 86–87):

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* I would like to thank David Dowty for immensely helpful discussion and suggestions on this paper.

[1] The analyses provided here are at this point still preliminary, and many details remain to be filled in. Still, they give a relatively clear picture of how serial verb constructions could be treated within the categorial grammar framework.

(1) (a) They have only one overtly expressed (syntactic) subject;
- (b) They contain two or more verbs without overt markers of coordination or subordination;
- (c) The actions expressed by the verbs are either simultaneous or consecutive, and all verbs are interpreted as having the same tense;
- (d) Negation, whether marked once or more than once, applies to the whole string;
- (e) Tense, aspect, mood and polarity (or whichever of these a language has) are either marked only once in the string, or else each verb in the string is marked as having the same tense, aspect, mood and polarity as $V_1$;
- (f) Either: the semantic subject of $V_i$ is the subject of $V_{i+1}$, or: the object of $V_i$ is the semantic subject of $V_{i+1}$.

Sebba also divides serial verb constructions into two types: coordinating and subordinating, and provides the following criteria for subordinating serial verb constructions (Sebba 1987: 112):

(2) (i) Although two or more verbs are present, the sentence is interpreted as referring to a single action rather than a series of related actions. Although the action may involve several different motions there is no possiblity of a temporal break between these and they cannot be performed, for example, with different purposes in mind.
- (ii) There is a strict ordering relationship between the verbs.
- (iii) Furthermore, the first verb in a series may subcategorise for a particular verb or class of verbs to follow it.
- (iv) In some cases, each transitive verb in the series has its own object . . . . In many other cases, however, where $V_2$ is transitive its object is apparently the same as the object of $V_1$. In this event the object of $V_1$ is not repeated or pronominalized, but simply omitted.
- (v) A series-internal non-reflexive pronoun . . . may not be an anaphor of any of the arguments of the verbs in the string.

Sebba (1987: 112) notes that in Sranan, subordinate serial verb constructions all occur with specific verbs in the $V_2$ (second) position. Most of the constructions considered in this paper fall into the category of subordinate serial verb constructions, although I also discuss an example of the coordinate variety.

The characteristics of serial verbs that are especially important for the analysis provided here paper are the following:

a. Verbs that appear in serial verb constructions are also able to occur as the sole verb in a sentence.
b. There may be language-specific restrictions on which verbs may occur in the various positions in the constructions.
c. Serial verb constructions have a semantic interpretation that seems to be different from straightforward conjunction.
d. A single NP may be a semantic argument of one or both of the verbs in the construction, and is not necessarily the same semantic argument of both.

## 2.0. Analyses of serial verb constructions

Before embarking on analyses of specific serial verb constructions, I'd like to give an idea of the general approach I'm going to take in analyzing them.

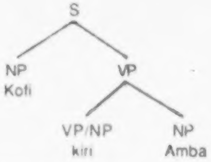
### 2.1. General approach

As I mentioned before, in categorial grammar the syntactic structure of sentences is a result not of phrase structure rules, but of the syntactic categories of the lexical items in those sentences. Consider the following sentence (this is a constructed example that I would expect to be grammatical in Sranan):

(3) Kofi kiri Amba
Kofi kill Amba
'Kofi killed Amba'

Under a categorial grammar approach, the syntactic structure of this sentence results from the fact that the verb *kiri* is of the syntactic category VP/NP. A verb with this syntactic category must be able to combine with two NPs in order to form a sentence. The following tree shows the structure associated with such a combination:

(4)



Given the idea that all structures result from the syntactic categories of their constituent expressions, in a categorial grammar analysis, one way to account for serial verb constructions is to say that at least one of the expressions in them has a more complex syntactic category than in a simpler construction like (4). Thus, in a serial verb construction like the one shown in (5) (Sebba 1987: 109), one of the items in the construction would have a more complex category than the basic category that item has when it occurs in a construction like (4).

(5) Kofi naki Amba kiri
Kofi hit Amba kill
'Kofi struck Amba dead'

If we accept this assumption, the only remaining task is to identify which expression in a serial verb construction should have a more complex category, and what that category should be. The crucial data in making these determinations are facts about lexical restrictions on the appearance of verbs in the different positions in these constructions, facts about the constituent structure of the final structure, and facts about the resulting semantic interpretation of the construction.

Complex categories of the type discussed above may be analyzed in categorial grammar as arising through the application of a category-changing rule. Such a rule might apply at the phrasal level or at the lexical level (in which case it would apply in the lexicon to some or all words of a certain category, depending on how productive the rule is). One treatment of lexical category-changing rules within Montague Semantics is found in Dowty (1982). An example of a simple category change given is "Unspecified Object Deletion" (Dowty 1982: 91), which takes a (two-place) relation and deletes one of its arguments to form a set:

( 6 ) S5: <F5, <TV>, IV> ("Unspecified Object Deletion")
Semantic Operation: $\lambda x\ (\exists y)\ [\ \alpha'\ (y)\ (x)\ ]$
English: $F5\ (\alpha) = \alpha$

The first line of the rule shows an ordered triple which consists of the name of a syntactic operation (in this case, F5), the category that is the input to the rule (here, TV, or equivalently VP/NP), and then the category of the output of the rule (IV, or VP) (Dowty 1982: 85). The second line describes the semantic operation that corresponds to the syntactic operation, and the third line describes any changes in the form of the verb (in this case, the form of the verb stays the same). The fact that the rule given here is lexical is given by the fact that the rule is specified as applying to lexical categories, and it is specified as applying in the lexicon. The idea behind the semantic operation given here is that a verb that used to require two arguments both syntactically and semantically now only requires one argument on both of these levels.

A more complex example is the lexical rule resulting in the addition of the suffix *-able* (Dowty 1972: 300). Rather than showing the formal rule here, I will simply give an informal description of its effect. Basically, the rule takes something of category VP/NP (that is, a transitive verb) and changes it into something of category ADJ, at the same time making a change in the English form of the verb by adding the suffix *-able*. The important point about this category-changing rule is that its result is more complicated than mere relation reduction.

The approach I take in this paper involves lexical category-changing rules similar to the ones just discussed. As mentioned in (2.1), verbs that can appear in SVCs also appear as the sole verbs in sentences (cf. (3)). The rules given here will operate on a basic verbal syntactic category to give a new, more complex category with a new semantic interpretation. The semantic translations for these constructions make the NPs in the constructions the appropriate semantic arguments of the verbs, and establish a semantic connection of some kind between the meanings of the two verbs. I'll be providing semantic operations in a Montague-semantics framework to represent some aspects of the meanings of the SVCs. Like the relation-reducing rule in (6), these rules involve no morphological change in the verbs that undergo them (zero conversion).

Like many if not most lexical rules, the rules given here are for the most part not entirely productive: that is, they don't apply to every word of a given category. In languages in which only a limited class of verbs belong to the more complex serial verb category, only those verbs would be subject to the lexical rule. The rule would be more productive in languages in which almost any word of the basic type can occur in the serial verb construction.

### 2.2. Analyses of specific constructions

The constructions I am considering here from Sranan and Yoruba are representative of the full range of serial verb constructions in these languages. Constructions I have not analyzed are similar in nature, so I assume they could be analyzed in a similar way within the categorial grammar framework. Since the way the verbs combine syntactically with their arguments (the basic syntactic category of the verbs) and the function-argument relationships in the resulting semantic interpretations are what I am most concerned with here, I've grouped the constructions into categories largely based on these characteristics.

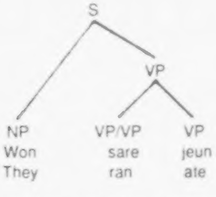
### 2.2.1. Serial verb constructions with 'run,' 'come' and 'go'

The verbs meaning 'run,' 'come' and 'go' in languages with serial verb constructions are generally free to combine with any verb phrase to give a new verb phrase. In Yoruba, the intransitive verb *sare* ('run') can precede any verb, regardless of its syntactic category. In constructions of this type, *sare* takes on the meaning 'quickly.' The example in (7) illustrates this construction:

(7) Won sare jeun
They ran ate
'They ate quickly' or 'They ran and ate'

Both *sare* and *jeun* have the basic category of IV (VP). With only this basic category, it would be impossible for the words in (7) to combine to form a sentence if we are relying only on the rule of function-argument application.[2] Since this construction in Yoruba only occurs with the verb *sare*, we can write a rule that changes *sare* from an intransitive verb to a more complex category. The new category should be one that can combine with another verb phrase to form an intransitive verb phrase: that is, a VP/VP. The tree in (8) shows how this category can combine with a verb phrase to form a new verb phrase.

(8)



The lexical rule effecting the category change could be written as shown in (9):

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[2] Another, less attractive alternative would be to posit a new syntactic rule which combines two like categories to form another category of the same type. This is essentially what a coordination rule might do. But the semantics of this construction is different from straightforward coordination, and since the construction is limited to just a certain set of verbs, it seems more plausible to account for it using a lexical rule than a syntactic one.

(9) Lexical rule for Yoruba (applies to *sare*):
If $\beta_1$ is a lexical item of category VP,
there is another lexical item $\beta_2$ of category VP/VP.

Although the form of this rule is general, it actually applies only to the single lexical item *sare*. I've left out the semantic operation for this rule because it is different from the others I'll be discussing here. The slash notation I am using in this paper is directional, so that the slash in the category VP/VP indicates both the fact that this category must combine with something of category VP to result in something of category VP and also the fact that the thing combined with must be to the right. In the directional slash notation I am using, a backslash will indicate that the category combined with must be to the left.

The Yoruba verbs *wa* ('come') and *lo* ('go') are similar to *sare* in that they can combine with another VP, but these two verbs follow another verb rather than preceding it. An example with *wa* is shown in (10):

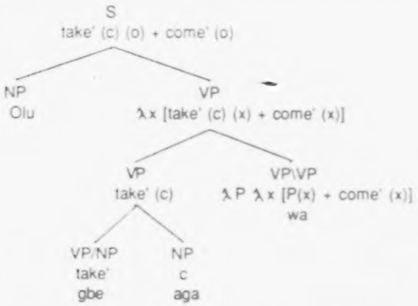
(10) Olu gbe aga wa
Olu take chair come
'Olu brought the chair'

For these verbs, we need a new category that allows them to combine with a preceding verb. The rule given in (11) accomplishes this:

(11) Lexical rule for Yoruba (applies to *wa* and *lo*):
If $\beta_1$ is a lexical item of category VP,
there is another lexical item $\beta_2$ of category VP\VP.
The semantic translation of $\beta_2 = \lambda P \lambda x [P(x) + \beta_1(x)]$.

This rule would apply only to the verbs *wa* and *lo* in Yoruba. The syntactic structure of the sentence in (10) is shown in (12):

(12)



Notice that the complex category resulting from the rule in (12) is identical to the one in (9) except for the direction of the slash.

Under the syntactic category of each node in the tree, I have given the semantic translation.[3] The '+' in the semantic translation for the new lexical item is intended to represent the indeterminate relationship that holds between the two propositions in the translation. The translation for the sentence in (10) is shown in (13):

(13) Semantic translation for (10): take' (c)(o) + come' (o)

For simplicity, I am assuming that the same relationship (indicated by the + symbol) holds between the propositions in most of the serial verb constructions I discuss here. I won't attempt to characterize what this relationship is at this point.[4] The important thing about the semantic translations for the new categories in the rules I give here is that they represent the semantic function-argument relationships that exist between the different NPs and the verbs in the constructions. The translation in (11), for example, allows the verb to first combine with another verb, which via lambda conversion replaces the *P* in the translation, and then allows the representation of the subject of the entire sentence to replace the *x* in the formula. (The linear order of the variables being lambda-ed in must match the order in which the category combines with its arguments).

The rule in (12) applies only to intransitive verbs. However, *wa* and *lo* also occur with NP complements, both alone and in serial verb constructions. An example is shown in (14):

(14) Ajao rin lo oja
Ajao walked go market
'Ajao walked to the market'

For *wa* and *lo* with NP complements, we need a different rule, one that allows the verbs to first combine with their complements and then with the preceding VP. This rule is shown in (15)[5]:

(15) Lexical rule (applies to *wa* and *lo*):
If $\beta_1$ is a lexical item of category VP,
there is another lexical item $\beta_2$ of category VP\VP)/NP.
The semantic translation of $\beta_2 = \lambda y \lambda P \lambda x [P(x) + \beta_1(y)(x)]$.

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[3] Throughout this paper, I am using a simplified notation that must be commented on. The translations given are all within a Montague Semantics framework. To make this notation easier to read, I am using small letters to represent all NPs (in Montague Semantics small letters are normally used only for representing individuals, not sets of individuals). In addition, I treat NPs extensionally rather than intensionally, again for clarity and ease of exposition.

[4] Although I am not making an attempt to identify it here, the nature of this relationship is important in that it may be able to account for some of the semantic restrictions on the first position in these constructions.

[5] I'm ignoring here the relationship between the complement-taking and non-complement-taking *wa* and *lo*. This relationship could also be indicated via a lexical rule, which could make the rule in (14) superfluous.

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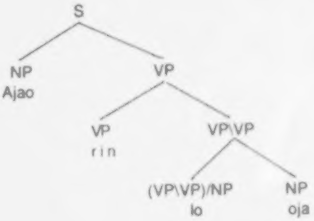
As shown in the tree in (16), the rule in (15) creates a category that can combine first with the original complement, then with the preceding VP, and finally with the subject NP.

(16)



With each syntactic combination (syntactic function-argument application), a parallel function-argument application takes place in the semantics. The final semantic translation for the sentence is shown in (17). This translation insures that the NP that is the syntactic subject of the sentence is the semantic subject of both verbs.

(17) Semantic translation for (15): walk'(a) + go'(m)(a)

### 2.2.2. Constructions with Object Sharing

In these constructions, two transitive verbs flank an NP that functions as the direct object of both of them. The examples in (5) and (17) from Sranan and Yoruba (George 1975: 82) illustrate this type of serial verb construction:

(5) Kofi naki Amba kiri
Kofi hit Amba kill
'Kofi struck Amba dead'

(18) Ajao ra epa je
Ajao bought peanuts ate
'Ajao bought and ate the peanuts'

Lexical restrictions on the verbs that can appear in this construction vary quite a bit from language to language. In Sranan, for example, only certain verbs can occur in the second position (Sebba 1987: 43). However, in Yoruba, constructions like the one in (17) have been claimed to occur with almost any transitive verb in either position (Adenike Lawal, personal communication).

It's worth comparing the meaning of Sranan constructions like (5) with what Sebba has called coordinating serial verb constructions, as in (19) (Sebba 1987: 109):

(19) Kofi naki Amba kiri en
Kofi hit Amba kill her
'Kofi hit Amba and killed her'

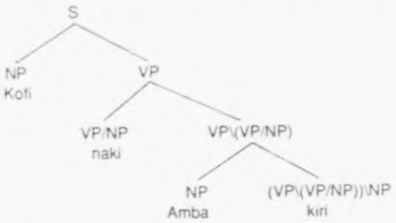
An important syntactic difference between this construction and the ones with object sharing is that the two verbs in (19) have different NPs serving as their direct objects. There is claimed to be a difference in meaning between the two constructions (Sebba 1987: 109). In the sentence in (5), Kofi's killing Amba occurs because of his striking her; that is, by striking her, he kills her. In (19), however, it is possible that Kofi may have struck Amba repeatedly and then killed her. It seems that the kind of semantic interpretation we want for (19) is straightforward conjunction. A Montague-style semantic translation for this sentence will be hit'(a)(k) & kill'(a)(k). How to analyze the meaning of (5) is less clear, but what's important at this point is that, regardless of how the semantic interpretation of (5) is eventually described, it is considered by native speakers to be different from the semantic interpretation of (19). Because of this difference, I have assumed that we should have distinct semantic interpretations for the two structures. For the Sranan serial verb construction shown in (5), we will need a lexical rule that applies to the category of the second verb in the construction (since this is the position that is restricted to a specific set of verbs), changing it into a category that can combine with the other categories so that we eventually end up with a sentence. Since categories are typically assumed to combine only with adjacent categories, we need to change the second verb into something that can first combine with the NP that precedes it, and then with the transitive verb that precedes the NP, to finally result in a VP (that is, something that combines with a subject NP to give an S). The category we want is (VP\(VP/NP))\NP. As shown in the tree in (21), this category is able to combine with the other categories in the sentence to give an S.

A lexical rule for changing category of second verb is shown in (20):

(20) Lexical rule for Sranan (applies to *kiri*, *broko*, and *panya*):
If $\beta_1$ is a lexical item of category VP/NP,
there is another lexical item $\beta_2$ of category (VP\(VP/NP))\NP.
The semantic translation of $\beta_2 = \lambda y \lambda P \lambda x [\beta_2(y)(x) + P(y)(x)]$.

In a language like Yoruba, in which most if not all verbs can occur in such a construction, a lexical rule of this type would be more productive, possibly applying to any transitive verb.

(21)



(22) Semantic translation for (5): hit'(a)(k) + kill'(a)(k)

### 2.2.3 Constructions with Object of First Verb as Semantic Subject of Second Verb

The constructions in this category are similar to those just discussed. The differences are that the second verb has the basic category of being an intransitive verb rather than a transitive one, and that the NP that is flanked by the two verbs acts as the semantic subject of the second rather than as its object. The second characteristic makes this type of construction especially different, since it is the only type in which the syntactic subject of the sentence is not the semantic subject of both verbs. An example of this construction in Sranan is shown in (23) (Sebba 1987: 91):

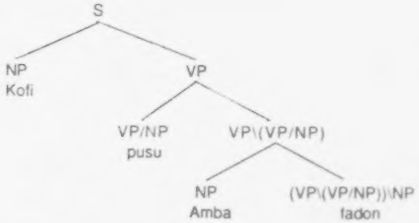
(23) Kofi pusu Amba fadon
Kofi push Amba fall
'Kofi pushed Amba down'

Only a small set of intransitive verbs can occur in the second position in this construction, so the category-change rule must be formulated to apply to that category. The complex syntactic category that results from the rule will be the same as the one resulting from the rule in (20), but the semantic translation must be different to allow the second NP to be the semantic subject of the second verb. The following rule will do the job.

(24) Lexical rule (applies to *fadon*, *komato*, etc.):
If $\beta_1$ is a lexical item of category VP, there is another lexical item $\beta_2$ of category (VP\(VP/NP))\NP. The semantic translation of
$\beta_2 = \lambda y \lambda R \lambda x [R(y)(x) + \beta_1(y)]$.

The tree in (25) shows the structure of (23):

(25)



(26) Semantic translation for (23): push'(a)(k) + fall'(a)

An important point to be seen from this type of construction is that two identical syntactic categories must have different semantic interpretations in order to account for the semantic difference between these constructions.

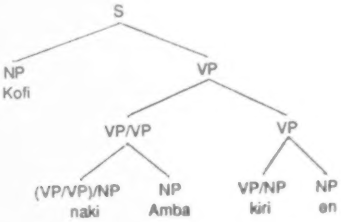
### 2.3.4. A Coordinate Construction

The constructions discussed in the previous sections have all been what Sebba called subordinate serial verb constructions. However, it's interesting to compare these constructions to the so-called coordinate constructions. The discussion that follows is a sketch of the different ways coordinate constructions might be treated in categorial grammar. An example of a coordinate construction was shown in (18), repeated below:

(18) Kofi naki Amba kiri en
Kofi hit Amba kill her
'Kofi hit Amba and killed her'

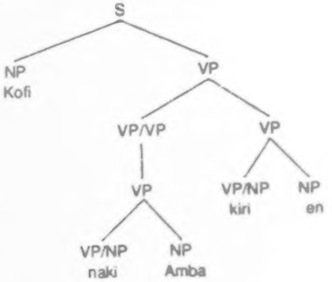
There are essentially three ways this string of words could be analyzed within categorial grammar. First, it could arise from a category change rule that operates on one of the verbs. If the rule operated on the first verb, the following structure would result (If it had operated on the second verb, the structure would be the same except for the category labeling):

(27)



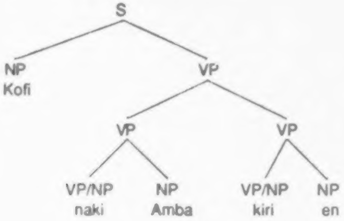
A second possibility is that a category-changing rule could apply at the phrasal level rather than the lexical level, as shown in (28). The VP dominating [hit Amba] is changed by this rule to a VP/VP, which can then combine with the VP to the right.

(28)



The last possiblity is shown in (29). Here, an entirely new syntactic rule is added to the grammar, added to the set of rules that include function-argument application and function composition. This rule would be essentially a coordination rule that applies to two like categories, conjoining them without an overt marker.

(29)



## 3.0 Conclusion

Using lexical rules in a categorial grammar framework has the advantage of allowing us to create lexical categories that can combine with other words to form serial verb constructions. The lexical rule approach seems especially appropriate since there are frequently syntactic restrictions on the verbs that can occur in some position within the constructions. Finally, this approach provides different categories for each type of serial verb construction; the characteristic that groups all of the constructions into a class is the fact that a lexical rule has applied to a simple verbal category to create a more complex one.

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